

Curriculum Design in Higher Education:
Graduate Profile and Attribute Inventory for Emergency Managers

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by
William Matthew Hurtes

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Abstract

Education serves diverse purposes. For some, it serves as a “critic and conscience of society” (Hattie, 2010, p. 85); while many argue that the first priority of education is employability. Diverse fundamental questions along with the changing demands of students and availability of online schools raises questions about how to facilitate high quality, relevant, and engaged learning. Increasingly curriculum development plays a more salient role. Educators can no longer rely solely on their experience in determining course content. Knowledge, in and of itself, is not enough, nor is it the point of education.

The purpose of this research is to identify the attributes for a multi-course, undergraduate curriculum that addresses the field of Emergency Management. It identifies attributes, the assessment of those attributes, and the placement of them in a multi-year curriculum from a multi-national, multi-track perspective. It provides discussions of curriculum design that are widely applicable in other fields. It examines curriculum at the institutional and program level, going beyond mere course titles, which provide little insight into the outcomes, content, and process of instruction.

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Abbreviations

AQF	Australian Qualifications Framework
ARP	Air Raid Precautions
ARRL	American Radio Relay League, Inc.
AT	Assessment Task
BCI	British Standards Institution
BCI	Business Continuity Institute
BCM	Business Continuity Management
BLS	Bureau of Labor Statistics
CCA	Civil Contingencies Act
CCC	Citizen Corp Council
CCS	Civil Contingencies Secretariat
CD	Civil Defense
CDEM	Civil Defence Emergency Management, New Zealand
CERT	Community Emergency Response Teams
CHEERS	Careers after Higher Education: A European Research Study
CMI	Chartered Management Institute
COG	Continuity of Government
COOP	Continuity of Operations
CRED	Center for Research on the Epidemiology of Disasters, United Nations
CSA	Canadian Standards Association
DHS	Department of Homeland Security, United States
DRI	Disaster Recovery Institute
DRJ	Disaster Recovery Journal

EOC	Emergency Operations Center
EOI	Early Organizational Involvement
EM	Emergency Management/Manager
EMAP	Emergency Management Accreditation Program
EMA	Emergency Management Australia
EMI	Emergency Management Institute
EPA	Environmental Protection Agency, United States
EPC	Emergency Planning College
EPS	Emergency Precautions Schemes
EPS	Emergency Planning Society
FCDA	Federal Civil Defense Administration, United States
FEMA	Federal Emergency Management Agency, United States
FRC	Florida Resource Center
FSA	Financial Services Authority
GAME	Government Actions in a Major Emergency
GAMD	Government Actions in a Major Disaster
GEMS	Generic Emergency Management Standards
GIS	Geographic Information System
HEGESCO	Higher Education as a Generator of Strategic Competences
IAP2	International Association for Public Participation
IAEM	International Association of Emergency Managers
ICMA	International City/City Management Association
ILO	Intended Learning Outcomes
ISDR	International Strategy for Disaster Reduction, United Nations
ISO	International Organization for Standardization

KPI	Key Performance Indicators
MCDEM	Ministry of Civil Defence and Emergency Management, New Zealand
MSEL	Master Scenario Events List
Munich RE	Munich Reinsurance Company
NFIP	National Flood Insurance Program
NGO	Nongovernmental Organizations
NHC	Natural Hazards Center
NOS	National Occupational Standards
NSDM	National Security Decision Memorandum
OBE	Outcome-based Education
OBTL	Outcome-based Teaching and Learning
RELFX	The Flexible Professional in the Knowledge Society
RRT	Regional Response Team
SOPAC	Secretariat of the Pacific Community
TPS	Tall Poppy Syndrome
UK	United Kingdom of Great Britain and Northern Ireland
UNISDR	United Nations Office for Disaster Risk Reduction
US	United States of America
WBL	Work Based Learning
WIL	Work Integrated Learning
WRL	Work Related Learning

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1. Introduction

If I had only one hour to solve a problem, I would spend up to two-thirds of that hour in attempting to define what the problem is.

William Markle¹

Emergency Management, as a field, has been described as one of the top 50 jobs (Webster, 2012), with increasing employment opportunities (O*NET, 2015). To match the growth, universities are offering more degree programs over the last 30 years (Neal, 2000). Even with the growth of academic programs, individuals working in the field still believe that training and education is lacking (Brown, 2015).

Employers are seeing more and more applicants with Emergency Management degrees with somewhat mixed results. From an ethnographic look, in 2002 following on the heels of the Winter Olympics in Utah, a local American Red Cross office recruited for a Disaster Services Coordinator where only one applicant presented with a related Emergency Management degree. The position was awarded to a history major with strong commitments, flexibility, and good judgment. In 2005, another Red Cross office hired a health professional as their Director of Emergency Services. In 2007, a county Emergency Management office recruited for an Emergency Services Specialist, where a few applicants presented with a relevant degree but all failed to secure the job because of a lack of knowledge and/or experience. The position was awarded to a computer science major who worked well with others to achieve collaborative goals. Later that year, the same office recruited for another Emergency Services Specialist to focus on planning, and while several applicants presented with Emergency Management degrees, their lack of relevant knowledge and/or experience discounted them in favor of an English major

¹ A quote from *The Manufacturing Manager's Skills* by W. H. Markle in R. E. Finley, & H. R. Ziobre (Eds.), p. 18. 1966. *The Manufacturing Man and His Job*. New York, NY: American Management Association.

with years of community planning experience. In 2008 a local city hired an outgoing community activist and stay-at-home mom as their first Emergency Coordinator because of her demonstrated experience in building collaborations and achieving goals.

Why is it that applicants with no disaster experience or training can be found more qualified than graduates from Emergency Management degree programs? What are the types of attributes that make good professionals? What are students getting out of their Emergency Management degrees? Are universities creating well-qualified Emergency Managers? To consider the value and potential of education in the field of Emergency Management, this study looks at the undergraduate preparation of pre-employment Emergency Managers by defining the professional attributes that are utilized in the field and exploring how those attributes may be taught and assessed as part of the educational curriculum.

1.1. Context

Disasters are not a new phenomenon; neither are they rare. In Mesopotamia, specialists advised community members on risk, uncertainty, and all manner of difficult decisions as early as 3200 BC. These *Asiqu* analyzed problems, suggested alternatives, and provided the people with information on possible outcomes (Covello & Munpower, 1985) much like professional Emergency Managers do today. Decision analysis frameworks provide the foundation of contemporary hazard assessments and risk management. To minimize risk, civilizations along the Nile River in the 1800s BC diverted peak flows to reduce the effects of floodwaters. Similarly, to respond to the eruption of Vesuvius in AD 79, community-organized mass evacuations are credited with saving many lives (Coppola, 2011).

History tells us a lot about the origins and evolution of both Emergency Management and education concepts in use today. The following historical investigation concentrates on events in England, New Zealand, and the US. Both New Zealand and the US represent study sites, as discussed in later chapters, and provide directly applicable context. As a Commonwealth country, the New Zealand Civil Defence Emergency Management (CDEM) system is largely based on British models (MCDEM, 1990), so it is worth looking at major events and advancements in all three locations.

1.1.1. Early Years (1914-1940). At a time when most countries had no formal system to protect the public from the effects of war, civilian casualties in World War I (1914-1918) were high (DHS, 2006). The US in 1917 (DHS, 2006) and England in 1935 (MCDEM, 1990) developed roles for local citizens to respond to threats. Due to a lack of coordination in response to two large earthquakes, a 1929 magnitude 7.8 earthquake near Murchison (<http://www.geonet.org.nz/earthquake/historic-earthquakes/top-nz/quake-04.html>) and a 1931 magnitude 7.8 near Hawk's Bay (<http://www.geonet.org.nz/earthquake/historic-earthquakes/top-nz/quake-05.html>) where a total of 277 people died, New Zealand recognized the need to include local citizens in identifying hazards and responding to them. It did not take long, and by 1932, New Zealand had developed a structure for disaster response whereby a local senior police official was granted the power to institute a state of emergency (MCDEM, 1990).

1.1.2. Civil Defense (1940-1960). World War II (1939-1945) helped to progress the integration of civilian war agencies into military efforts (DHS, 2006). England, New Zealand, and the US all established formal organizations to recruit local citizens into specialized response teams. Air raid wardens, auxiliary police,

bomb squads, and decontamination corps were used in the US (DHS, 2006), and New Zealand identified wardens to coordinate drills, fire fighting, first aid, and local rescue services (MCDEM, 1990). With the buildup of local resources, England (Kapucu, nd), New Zealand (MCDEM, 1990), and the US (Sylves, 2008) empowered local government to manage emergencies at the local level. As funding decreased in England (Smith, 2009; 2010) and interest declined in New Zealand (MCDEM, 1990), a shift in focus began.

Figure 1
Civil Defense Poster with Logo



Note: The Civil Defense logo was created by the U.S. Office of Civil Defense in 1941 and is still in use around the world today. This poster is from a private collection hosted on the website <http://www.civildefensemuseum.com> and dates back to 1955.

1.1.3. Comprehensive Emergency Management (1960-2001). Defining an exact period in time where governments shifted their attention away from the

military beginnings of civil defense to addressing natural hazards is unclear. New Zealand has a long history of integrating the two approaches as evident by the accounts of years of earthquake responses and legislative initiatives² (MCDEM, 1990). Likewise, England addressed natural hazards as well as matters of insecurity during this time (O'Brien, 2006). Reaction in the US, during this period is less directed. Legislation in 1950³ focused on natural hazards while additional legislation in 1966⁴ drew the country into a “dual use” position of addressing civil defense as well as natural hazards (Sylves, 2008). Drabek (1991a; 2007) notes that a new era began to emerge with shifting emphases from defeating the threat to preparedness and mitigation measures to reduce the risk. Emergency Management programs evolved to emphasize cooperation and coordination (Drabek, 2007) over defeating an enemy. Finally the US Disaster Relief Act of 1974 definitively shifted the national and local attention from civil defense to all-hazards preparedness. The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) of 1988 solidified the Federal Emergency Management Agency (FEMA) as the federal agency responsible for the coordination of Emergency Management activities in the US (Sylves, 2008). State and local efforts reflected the myriad of transitions at the national level and found themselves struggling for identity with names such as offices of civil defense, emergency preparedness or Emergency Management, or the like (Drabek, 2007). That was—until September 2001.

² *Public Safety Conservation Act of 1932; Emergency Precautions Committee of 1936; earthquake responses of 1942; Local Authorities Emergency Powers Act of 1953; Government Actions in a Major Emergency (GAME) plan of 1954; Civil Defence Act of 1962; Government Actions in a Major Disaster (GAMD) of 1965; Civil Defence Amendment bill of 1968; Civil Defence Act of 1975; Addotsford Commission of 1979; Civil Defence Amendment Act of 1979; Civil Defense Act of 1983*

³ US Federal Disaster Relief Act of 1950 (Public Law 81-875)

⁴ US Disaster Relief Act of 1966 (Public Law 89-769)

1.1.4. Homeland Security (2001-present). Few things in the evolving field of Emergency Management have been met with as much confusion and consternation as the rise of homeland security (Waugh, 2007). It is clear that the civil defense era had never died (Canton, 2007; Roberts, 2006).

England responded to the attacks of 11 September 2001 by creating the London Resilience partnership in 2002 to develop a terrorism plan for London (O'Brien, 2006). The newly passed Civil Contingencies Act of 2004 updated civil defense and emergency power legislation to define an emergency, identify roles and responsibilities, describe new roles (Kapucu, nd), require local governments to provide business continuity management (BCM) training to local businesses and voluntary organizations (O'Brien, 2006).

In the US, President Ronald R. Reagan placed multiple requirements on FEMA for civil defense work (Drabek, 2007; Sylves, 2008). The sleeping giant of civil defense was awakened by the attacks on the US in September 2001. While initial efforts were carried out under the auspices of Emergency Management and disaster response, by 2002 Congress had approved the creation of a new federal Department of Homeland Security (DHS). Combining multiple federal agencies for its creation, DHS struggled with multiple understandings of “the problem” and no unifying solutions (Sylves, 2008). Sylves writes that

In the emergency management arena, the overall effect of the reorganization has been to expand the role of defense and law enforcement-oriented agencies concerned exclusively with terrorism while diminishing the role and decreasing the prestige of organizations conducting all-hazards Emergency Management. (Sylves, 2008, p. 70)

Homeland security programs “reflected a top-down approach” where the emphasis is on command and control (Drabek, 2007). Emerging is a branching of philosophies and policies; one of homeland security, which emphasizes top-down approaches and

command and control, while Emergency Management's bottom-up local approach seeks cooperation and coordination (Drabek, 2007). These differences lead to differing approaches to the field and work of Emergency Management.

While an interesting place to start, a look at the history only touches on the complexities of the field. This understanding can be used to inform the concepts that are currently employed in the field of Emergency Management, though they should not be regarded as a limitation that constrains advancement or change. The focus here is on the individuals that take up the challenge to become professional Emergency Managers.

1.2. Background

At the center of over 7,000 recorded disasters in the last decade (CRED, 2011) is a workforce of Emergency Managers dedicated to restoring order to affected communities. These emergency professionals typically had less than five years of experience, lacked formal education as Emergency Managers (IAEM, 2005), and relied on their training as engineers, law enforcement, firefighters, or other such discipline specific fields. These professionals primarily relied on non-formal professional development training and past experiences.

There has been a substantial increase in professional development and academic Emergency Management programs over the past twenty years as a response to an increase in jobs and popularity of the field. A strong push from the field for professionalization, certification, and accreditation has led to the rapid growth of academic programs. It is precisely because of the industry's interest in professionalism that academic institutions are positioned to play a critical role in the progression of this gradually emerging profession (Neal, 2000).

Educational importance is a recurring theme in disaster-related literature worldwide. In preparing students “for lives of significance and responsibility,” Sullivan and Rossin (p. xvi, 2008) believe that a university is, in fact, purposed for such a task. Education is more important today than in the past, and while a degree is important, it is less significant what that degree is in (Hurley-Hanson, Walley, Segrets Purkiss, & Soffenfeld, 2005). The *1994 Yokohama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation* identified education and knowledge management as one gap in helping to reduce disaster risk and their impacts (UNDP, 1994). Again in 2005, the *Hyogo Framework for Action 2005 – 2015: Building the Resilience of Nations and Communities to Disasters* called knowledge and education a “priority for action” in building a culture of safety and resilience (UNISDR, 2005a).

In Australia (EMA, 2000) and in sustainable development circles (Hidaia, 2009), many such reports identify and advocate for the need for disaster education. Notably, the preponderance of these calls are directed at community education as well as primary and secondary students. The *Sendai Framework for Disaster Risk Reduction*, released in 2015, does address education at multiple levels to include government officials and professionals; however, there has been a significant lack of attention paid to educating Emergency Managers at the tertiary level worldwide with the exception of a few reports (Hoa, 2009; Tran, 2009; UNISDR 2012).

Despite the lack of attention in the area of educating professional Emergency Managers, a network of academics are publishing articles about the role of tertiary education. David Neal (2000) believes that universities have a “central salient role with such emerging issues as certification, accreditation, and professionalization of the field” (p. 434). In a 2003 Disaster Roundtable held by the National Research

Council in the US, participants identified that the advancement of Emergency Management is critically linked to higher education and research (Hite, 2003). Likewise, J. R. Thomas, President of the International Association of Emergency Managers (IAEM) in 2003, stated that practitioners “of the future will need to have a multi-disciplinary education” (Hite, 2003, p. 7) and John Harrauld, Director of the Institute for Crisis, Disaster, and Risk Management in 2003 at George Washington University, “stressed the importance that graduate education becomes a critical component of the emergency management profession” (Hite, 2003, p. 10). Walker (1998) does not only support formalizing degree programs in the area but also suggests an accreditation of such programs. While many challenges confronted such a concept when he suggested it in 1998, other challenges have emerged since.

Brenda Phillips (Hite, 2003) identifies one of these challenges with moving the field forward and states “because of a significant lack of qualified faculty, universities must educate not only emergency managers, but the future professoriate as well” (p. 12). Robert McCreight (2009) of George Washington University raises questions that research has yet to answer: Is higher education preparing students for the workforce? What topics should be covered? Are communities better served through the education students are receiving?

Research in multiple countries shows that there are questions about the ability of Emergency Managers to do their jobs. Following the 2003 earthquake in Bam, Iran and the 2005 earthquake in Balakoot, Pakistan, Hosseini and Izadkhah (2010) stated that the “expertise of the emergency managers in controlling and managing the emergency response has not been professionally adequate and up-to-date” (p. 185). A study in the Commonwealth of Virginia found that Emergency Managers’ critical thinking ability and inductive and deductive reasoning all fell below the means of

other professional managers in advertising, education, finance, defense, health care, manufacturing, and other governmental services (Collins & Peerbolte, 2011). These studies lead to questions around: Is this who we want protecting our communities before a disaster? Is this who we want responding when things go bad? Is this who we want leading recovery efforts of our communities?

A review of 544 academic program listings available online at the websites of the Emergency Management Institute's Higher Education Project and the United Nations International Strategy for Disaster Reduction's PreventionWeb illustrates the great diversity of current academic programs and qualifications. With representation in fire, security, development, international affairs, planning, environment, health, engineering, geology, and many others, such diverse approaches from professional and liberal arts programs demonstrates little consistency in the education of Emergency Managers, partly hindered by a lack of academic standards or accreditation (Hurtes, 2011b). The next chapter will address the impacts that such a diversity of approaches in the field of Emergency Management can have.

1.3. Need for the Study

With the increase in the number and diversity of Emergency Management higher education programs, it is surprising that there is a lack of available research on their formation, structure, content, and delivery. Three consensus documents have emerged that have implications on the education of practitioners: *The Emergency Planning Society Core Competences Framework* (ESP, 2011) released in 2011 by the Emergency Planning Society (EPS) in the UK, the *Competency Framework* (MCDEM, 2011) released in 2009 by the New Zealand Ministry of Civil Defence and Emergency Management (MCDEM) as a technical standard (TS02/09), and the *Curriculum Outcomes* (Jaffin et al., 2011) released in 2011 by a committee convened by FEMA in

the US and chaired by Bob Jaffin. Addressing professional competencies in the case of the EPS and MCDEM and graduate outcomes in the case of FEMA, each identify as serving to inform the education of Emergency Managers. The researcher can find only FEMA's *Curriculum Outcomes* in the academic literature published by committee member and North Dakota State University Assistant Professor, Carol Cwiak (2011). The lack of peer-reviewed publications suggests these competencies or outcomes, referred to here collectively as attributes, lack rigorous evidence-based validation. This study addresses the knowledge, skills, and characteristics of exceptional Emergency Management practitioners, academic assessments of these attributes, and sequencing of attributes and content into a multi-year, undergraduate, higher education curriculum.

1.4. The Study

The number of higher education institutions offering Emergency Management degree programs is increasing (Cwiak, 2014; Neal, 2000), and Cwiak (2014) and Hurtes (2011a) found that the academic programs are located in a wide variety of departments. How are students to know which programs will meet their needs, and how are employers to know that graduates are equipped to be successful new employees?

The purpose of this research is to identify the attributes for an Emergency Management multi-course, undergraduate curriculum that addresses an all-hazard perspective. Utilizing the emergent nature of naturalistic inquiry (Lincoln & Guba, 1985), the study will focus on pre-identified areas in this field while allowing for modification, as data is collected and new paths revealed.

The provision of education for the emerging field of Emergency Management should be grounded in well-established career attributes from which student

assessments and curriculum progressions can be designed. The guiding question for this study is:

How can universities better prepare Emergency Managers of the future?

To address the complexity of this issue, the following steps will be taken:

- Identify professional attributes.
- Investigate curriculum assessments that meet the stated attributes.
- Outline an objective-based curriculum progression.

In many ways, a large research project is like a disaster—messy. They both seem overwhelming initially. Relying on a set objective, stepping back to look at the big picture, and goal planning is key. Like a good plan, the research process is flexible and allows for needed adjustments as new information is revealed and circumstances develop. This study has evolved through the identification of attributes, the investigation of assessments, and the structuring of curriculum.

1.5. Conclusion

Disasters create chaotic places where day-to-day services and lives are interrupted. They are intensely emotional and have profound impacts on individuals and communities (Hurtes, 2011b). Seeing that everyone is looked after and basic needs are met can be challenging. There is always one area or one group of people who seem to get a lot of attention and subsequently a lot of support. Similarly, it is common to see a duplication of services in some areas while others are neglected (Moyo, 2009). Many people may relate to this at some level.

We all have things that pull at our heartstrings more than others. Some things resonate with our perceptions, beliefs, past experiences, and expectations. We all have some level of personal preferences. In much the same way, the work we choose can be said to reflect our perceptions, beliefs, past experiences, and expertise. And if

your work is teaching, the lessons and courses tend to reflect our perceptions, beliefs, past experiences, and expertise.

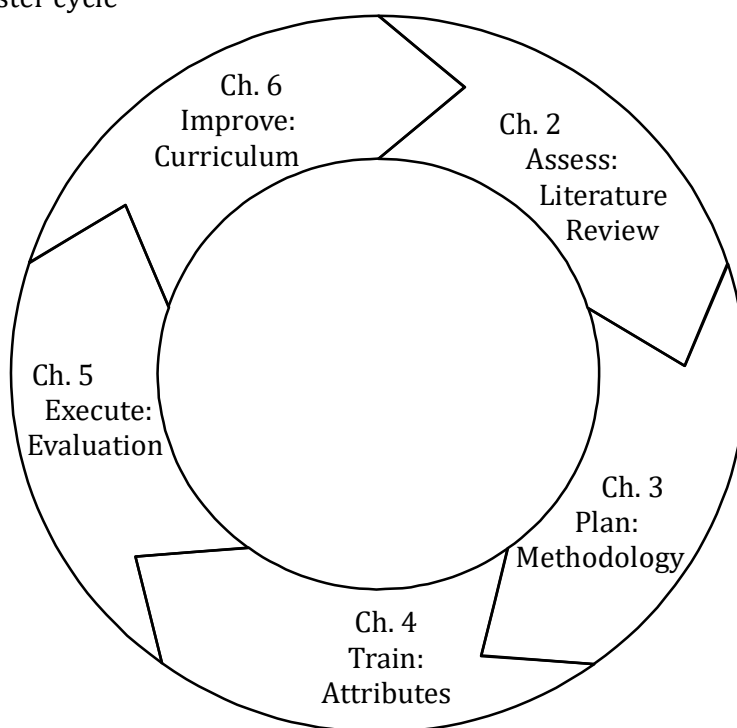
As we look around and see other teachers or practitioners, we can see how their unique character is expressed in what they do. Students progress from one class to another, from one educator to another, and from one term to another. What do they get out of the process? I venture to say that they get an exposure to that which their predecessors, who now find themselves in the role as educator, find interesting or believe is important for them to know and understand. This information, as it is, cannot be viewed without acknowledging the lens from which it is being provided.

Is education merely the collective sum of perceptions and beliefs of previous students turned masters? The following chapters explore this idea while looking beyond the individual educators and classes to a more holistic, student-centered approach.

Utilizing a typical disaster cycle used by MCDEM (2009) and FEMA (DHS, 2013), Figure 2 provides a roadmap of the chapters that follow, relying heavily on educational theories and practices along with the insights gained from Emergency Management practitioners to address one basic question: What should a university Emergency Management curriculum include?

Chapter 1 has provided a context for where Emergency Management has evolved from and currently sits in a few select countries. A background of the field and the role education plays serves as a broad overview to emphasize the need for this study. Much like a disaster planning cycle, the following chapters define the current situation, outline a plan to address it, identify components that need further training, discuss how to assess the plan, and provide improvements.

Figure 2
A typical disaster cycle



Chapter 2 provides the reader with a short review of educational and Emergency Management literature; much the way a hazard assessment provides a historical context and outlines the issues that need to be addressed. It starts with a look at the purpose of education and explores the link between education and employability. After all, should we not be able to articulate why we educate before we commence educating? Philosophies of education and curriculum are discussed to guide their use in subsequent chapters. The chapter then transitions to look at Emergency Management education and efforts towards developing attributes for this diverse and evolving field. The chapter concludes with a look at specialized career tracks in which graduates are likely to find themselves.

Chapter 3 describes the structure and process for how the study was conducted. In this chapter, the analogy of a response plan is used as a way of describing the

work to take place. The chapter describes two phases of the study as (a) identification of attributes and (b) student assessments. As the phases are dissimilar, each section will address data collection techniques, analysis, and trustworthiness as appropriate.

Expanding on the phases described in the previous chapter, Chapter 4 identifies 29 attributes, provides a description of each, identifies where they can be linked to a set of comparative documents, and reveals evidence from field observations and interviews.

In the same way a disaster exercise tests the feasibility of a plan, Chapter 5 tests a selection of attributes used in a classroom setting. This chapter also discusses additional assessments found in the literature and conceived by the researcher.

Having provided an assessment, laid out the plan, identified and tested the components, the next step is to provide improvements or recommendations. Chapter 6 provides a discussion and sample curriculum, integrating findings from Chapter 4 and Chapter 5. It is not prescriptive and offers curriculum suggestions based on concepts discussed in Chapter 2.

The final chapter provides a look at the key findings, their relevance, and implications for the future. Appendices provide additional information about study participants, attributes identified in this study, and those used in comparative documents.

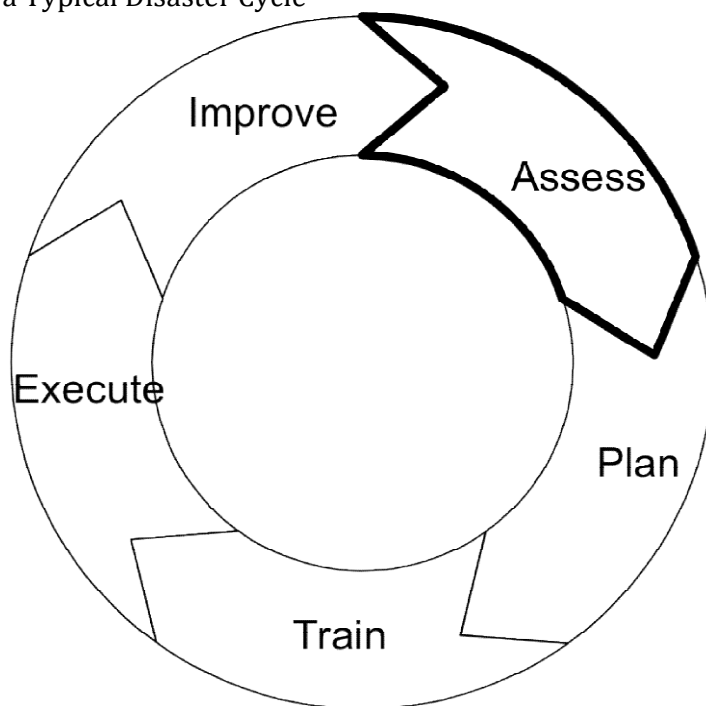
2. Assess: Literature Review

Many women who do not dress modestly... lead young men astray, corrupt their chastity and spread adultery in society, which increases earthquakes.

Hojatoleslam Kazem Sedighi⁵

Disaster response is the result of coordinated and deliberate actions planned well in advance of any incident. Standard practice begins with an analysis of hazards and risk. This process allows planners to identify the key threats or issues in the community they will be working. The second piece is analyzing the risk by determining the relevance of each hazard and how it impacts the community.

Figure 3
Assessment in a Typical Disaster Cycle



Like identifying hazards, the following chapter brings diverse topics together to provide a more complete picture than can be seen by looking at them individually.

Key issues from the expansive education literature are combined with what is

⁵ A quote from Iranian cleric Hojatoleslan Kazem Sedighi as cited in On the web. 2010. *Disaster Prevention and Management: An International Journal*, 19(4) doi:10.1108/dpm.2010.07319dag.001

known from the field of Emergency Management. This review begins with a look at the evolving purpose of education before discussing key movements and practices in teaching and curriculum development. Having discussed the why and how of education, the chapter shifts to draw on Emergency Management literature.

Particular attention is paid to curriculum issues and three sets of currently identified attributes and their implications for Emergency Management education. Finally, the chapter ends with a description of the field of Emergency Management and various career tracks students may be employed in.

2.1. Education

Upon identifying the hazards that may affect a community, so too must this work identify some of the major themes in education that influence this discussion. Any good hazard assessment utilizes the wisdom of the past in determining the likely influences on the present and the future. Cohen (as cited in Eisenbach, Golich & Curry, 1998) identifies that many in education believe that “teaching is telling, knowledge is facts, and learning is recall” (p. 59). The following section examines the foundation of this belief system by looking at key influential figures and philosophies with special attention to matters of curriculum.

2.1.1. Evolving Purpose of Education. So what is it in our past that has led to the system of education that is widely in use today? Why is it that a bachelor’s degree is considered to be three or four years of full-time study? How is it that some courses are compulsory while others are not? Why is it that a course is worth so many credit hours or contact hours? When was it determined that some courses would include a laboratory component? These seem like such basic questions when determining a curriculum and developing new course offerings. It would appear

that a heavy reliance is placed on the traditions of education and conforming to the time allocations, course lengths, and established systems.

A study by Bennett, Dunne, and Carré (2000) highlights that amongst higher education teachers, there is disagreement about the purpose of education. Table 1 highlights a general belief that higher education should provide discipline specific knowledge and skills. It also shows divided beliefs about the value of education for educational sake and academic excellence.

Table 1
Higher Education Teachers' Beliefs about the Main Purpose of Education.

	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %
Provide education for its own sake	38	28	28	6
Provide disciplinary knowledge and skills	66	34		
Promote academic excellence above all else	19	38	44	
Equip students with skills for employment	34	59	6	
Prepare students for the world of work	28	59	13	

Note. Reproduced from "Skills Development in Higher Education and Employment," by N. Bennett, E. Dunne, and C. Carré, 2000, p. 35.

This discrepancy as to education's purpose is not new nor has it been a stagnant debate. Before addressing questions about Emergency Management curriculum in Chapter 4, such a fundamental issue as to the purpose of education deserves further consideration.

2.1.1.1. *Survival.* It is quite reasonable to believe that humans have been learning from the very earliest conceptions of the species. While no formal education may have existed, parents taught their children how to gather food and shelter from the elements using a system of imitation or what Graves calls "trial and success" (1919, p. 5). Through an evolution to primitive times, one can see the

institution of a more formal assessment process with the onset of puberty. Elders of the community instructed the youth in all manner of spiritual, cultural, and historical traditions and beliefs during this time. Youth were then tested as part of an initiation ceremony or tasking.

In the ancient Orient (Egypt, Babylonia, Assyria, China, India, and Persia), educational opportunities were based on class divisions according to their position in life. The Hindu schools were housed in temples and taught by religious leaders, so it is no surprise that the learning focused on religion studies. Even with a religious focus, the Hindu educational system was seen to encompass multiple facets or subjects. Students in the upper castes were expected to be well versed in knowledge, customs, and philosophical and scientific subjects. Relying heavily on memorization and imitation, the Hindu system could be described as a mere “stuffing of the memory” (Graves, 1919, p. 7). It is this focus on the past that Graves attributes to their downfall as new knowledge was not valued or recognized. Seeley (1899) adds that the Hindu education neglects lower caste members and women while also lacking a philosophy of education leading to non-progressive efforts.

In contrast to the Hindu system, Jewish education in the Orient developed down a different path. Initiated in the home, Seeley (1899) describes the family as the “nursery of education” (p. 17). Jewish schools grew in popularity after the Babylonian captivity in 536 BC with the expressed goal of building moral and religious character (Graves, 1919).

2.1.1.2. Service. The Greeks, led predominately by Sparta, viewed education as a means to build strength, courage, and obedience to the state through the use of repetitive drills and discipline. Service to the state was valued over anything else and is said to have contributed little to the arts, philosophy, literature,

or citizenship (Graves, 1919; Seeley, 1899). In Athens, service to the state and military training were highly regarded expressions of the purpose of education. Schools were private institutions, but the State provided facilities, determined teacher qualifications, fixed class hours, established teacher-student ratios, and required yearly examinations (Seeley, 1899). Athenian schools provided intellectual education for boys until age 15. Following their defeat in the Persian Wars (499-449 BC), a marked shift began to emerge where wealthy families hired private tutors and a strong sense of individualism developed.

2.1.1.3. *Individualism.* A State focused perspective was eventually replaced with a more individualistic approach, believing that the state was best served through the personal development of the individual. Debating and public speaking were highly valued and represented not just the acquisition of knowledge but also the ability to synthesize information and communicate it clearly (Graves, 1919).

Until this time, Athenian education concluded after the twentieth year. Plato (429-347 BC) may have been the first to institute a system of higher education (Graves, 1919) although others will argue that it was Isocrates (436-338 BC) (Muir, 2005). This new educational concept included graded marks like the previous years and extended for another 15 years. The theories behind mathematics, geometry, music, and astronomy were studied in the first 10 years to develop the capacity for abstract thought. The remaining five years were offered to only the most competent thinkers and solely focused on developing and delivering arguments. Plato's new curriculum comprised two phases with what may be considered grammar, rhetoric, and logic in the first and mathematics, geometry, music, and astronomy in the

secondary. Combined they became known as the “seven liberal arts” and later as “liberal” studies and had the intention of developing thinking skills (Graves, 1919).

Following Plato, Aristotle (384-322 BC) saw individualism in education become more and more dominant. Formal State sponsored schooling was divided into two phases and spanned the years of seven to twenty-one. The phase before puberty was devoted to the “training of the impulsive or irrational side of the soul, and the second to that of the rational side” (Graves, 1919, p. 25) with the expressed purpose of training virtuous citizens. The Aristotle pedagogy includes not only the development of individuals into “patriotic citizens” (Seeley, p. 66) or “citizenship” but also values education for future endeavors (Boulton, 1966, p. 41).

Two classes of schools prevailed in Greek education until around AD 300 where Plato and Aristotle represented the philosophical while the Hellenic universities represented the rhetorical.

Educational historian Graves (1919) attributes an early leap forward in the educational system to the Greeks. Their eventual inclusion of individuality and the transition from a purely historical context to being the first people to use education for some future endeavor sets them apart as promoters of human development. With their advancements, universities and Greek culture spread throughout the world.

2.1.1.4. *Debate.* The period between the 5th and 15th century saw a marked increase in the number and availability of universities, which largely grew out of cathedral and monastic schools. Leading the way in England, Benedictine monasteries constituted some of the most advanced centers of learning in the eleventh century (Aldrich, 1982). While there was a great deal of diversity of how each of these universities evolved, they were largely modeled on the Moorish

colleges liberal and professional curriculum. Specializations started to develop with the university at Bologna in Northern Italy becoming the center for Roman law studies. Until this time, universities did not exist under such a name and evolved slowly to characterize academic institutions. It is believed that the university in Barbarossa, Italy, may have been the first official university recognized in 1158. It was not until the 15th century that the term university became widely accepted. Universities evolved and organized themselves into faculties, which generally included arts, law, medicine, and theology. Papal decree or charter, in large part, dictated the curriculum of each faculty. Lectures were relied on heavily for the transmission of knowledge and debates for the advancement of public oration. Attendance constituted six years for an arts degree after which time masters were expected to continue on and take up the role of teacher. Not recognized until the 13th century, the baccalaureate degree was popularized as a status of honor. Considered as authoritative by today's standards, medieval universities contributed to the advancement of individualism and human development (Boyd, 1954; Graves, 1919; Seeley, 1899).

2.1.1.5. *Engagement.* Education systems were under constant change during the 16th, 17th, and 18th centuries as in the years preceding due to the influences of the Protestant Reformation, the rise of Naturalism, and Enlightenment. Like in years past, religion had a great influence over education, and the Protestant Reformation is no different. Greatly influenced by John Calvin (1509-1564), the time was most known for its theological aspects and its aim to restore religious values in schools. Lesser known was its influences on economic development and industrialism that found favor with the growing professional middle class. Combined with the common school movement, which later became the foundation

for the public school model in the US, the Protestant Reformation promoted education for civic engagement (Gutek, 2011).

Religious strife was rampant through the Middle Ages in Europe and continues in some areas around the world today. Johann Amos Comenius (1592-1670) was convinced that enlightened education would bring the religiously diverse and ethnically divided into an area of mutual understanding in order to reduce the violence he saw around him. He promoted understanding between teachers and students based on mutual respect in contrast to the corporal punishment common in the day. He recognized that children's interest in learning and subjects changed as they developed and matured. It was the job of the teacher to recognize each child as an individual and cater lessons to meet their developmental stage (Gutek, 2011). He wrote that most schools were like "slaughterhouses of the mind" (as cited in Bloom, 1975, p. 2) forcing children to learn subjects for which they were not ready. He believed that curriculums should be developed utilizing the students' readiness, interest, and development stages and promoted students working in groups to accomplish assignments. Comenius' vision of education continued from primary and secondary school to universities where he espoused a philosophy of pansophism or "all knowledge" (Gutek, 2011, p. 132).

In Comenius' universities, and many of the universities of the 15th and 16th centuries, the role of instruction shifted from the masters of the Middle Ages to professional college tutors (Aldrich, 1982, p. 129). During this same period, the bachelor's degree found its place and shifted from six years for an arts degree to four years. A masters of arts entailed an additional three years of study. Despite some advancement during this time, the popularity and attendance in universities

declined. Affluent families resorted to utilizing the Athenian example of 449 BC of employing private tutors in their homes for their children.

Like Comenius, Jean-Jacques Rousseau (1712-1778) (1762/2002) recognized the developmental stages of growth and maturity and believed that education should not only cater to these stages but that learning activities should be developed to correspond with them. A student's natural abilities and interest should guide his or her education. A student's natural interest in a stream or the clouds or a volcano should be encouraged and used by teachers to enhance curriculum. Learning should not be constricted to the walls of a classroom but rather enriched through all manner of field trips and experiences.

Rousseau challenged much of the traditional educational theories of the day and dared to see the possibility of what could be rather than what was. His learner-centered perspective supersedes his own teaching and career and is in use and debated today. Rousseau's learner-centered permissive education deviated from the liberal curriculum advocated by Plato, Aristotle, and Calvin and which dominated his era. He favored an educational system where the natural environment took prominence in serving to bring about an educated and better world (Graves, 1919).

Integrating concepts like rising floodwaters, coastal erosion, and drought into curriculum, Johann Heinrich Pestalozzi's (1742-1872) philosophy of natural education built on Rousseau's theory by capitalizing on the experiences of the students. The experiences that students had should be cultivated and mined for their educational value (Gutek, 2011). The experience of life is educational. During the 19th century, the idea of education based on experiences continued to flourish, in large part to the work of John Dewey (1859-1952). Dewey's ideas of experiential

education persist today with great relevance (Roberts, 2011) and will be discussed further in a later section of this chapter to afford them greater attention.

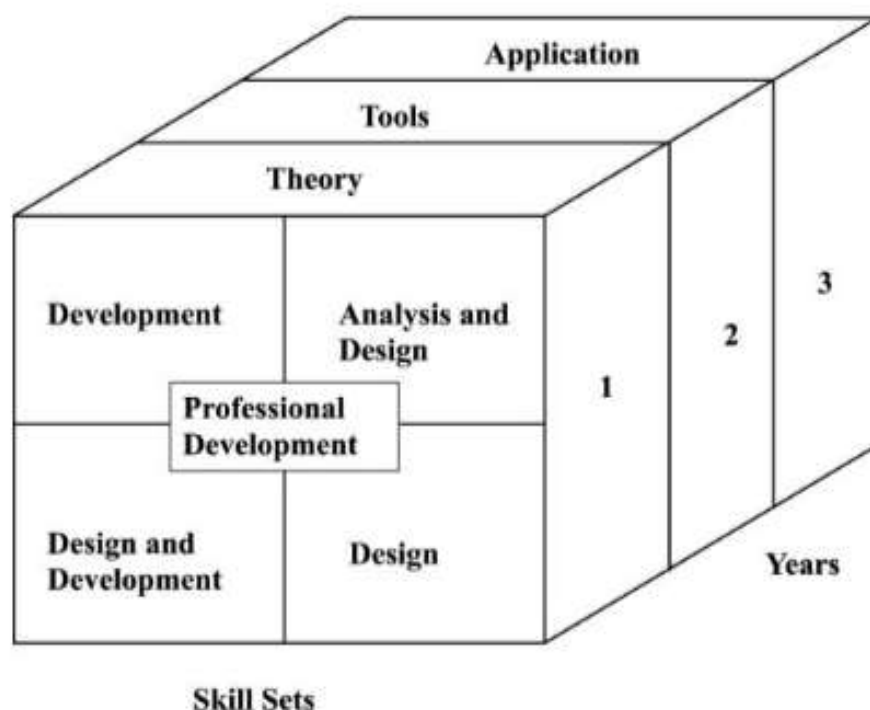
2.1.1.6. *Employability.* Education serves diverse purposes (Agostino & Harcourt, 2010) and according to the New Zealand Ministry of Education, the first priority of higher education is “delivering skills for industry” (2014, p. 9). In the UK, the Dearing Report (1997) echoes that the purpose of higher education should be in developing skills that lead to employability. Hattie (2010) takes a different view, arguing that higher education should serve as the “critic and conscience of society” (p. 85) based on language in New Zealand’s education legislation. Kalfa and Taksa (2015) provide further debate by identifying limitations to what they call a “generic skills” (p. 580) based approach to education.

Despite some dissention, economist, politicians, employers, students, and faculty seem to support, at least in part, the notion that higher education has some role to play in employability (Poropat, 2011). References to education serving to enhance employability can be seen through the early 20th century in the chemical (“An Australian Chemical,” 1917), medical (“A Criticism of Modern,” 1913), and maritime industries (“Navigation at the Royal,” 1913). The issue of employability continues in fields such as business (Jackson, 2013), leadership (Quintana, Ruiz, & Vila, 2014), economics (Pavlin & Svetik, 2014), engineering (Marks, 2006), and psychology (Goedeke & Gibson, 2011) and is directed towards research-intensive universities (Baker & Henson, 2010). European countries have addressed the link between higher education and labor through many multinational collaborations such as the Careers after Higher Education: a European Research Study (CHEERS)⁶, The Flexible

⁶ See website at http://www.uni-kassel.de/wz1/TSEREGS/sum_e.htm for full details.

Professional in the Knowledge Society (RELFEX)⁷, and Higher Education as a Generator of Strategic Competences (HEGESCO)⁸.

Figure 4
Four Skills Sets Mapped Across Three Year Undergraduate Curriculum.



Note: Adapted from “Skill Sets: An Approach to Embed Employability in Course Design” by C. Cox and D. King, 2006, p. 268.

Much of the research in this area of employability focuses on the identification and validation of specific skills. Cox and King (2006) propose how specific skills are integrated with progressive layers of application in a multi-year undergraduate curriculum as seen in Figure 4. Harvey and colleagues (Harvey, Moon, Geal, & Bower, 1997; Harvey, Lock, & Morey, 2002) point out that employers are less interested in technical or discipline-specific skills and knowledge in favor of generic

⁷ See European Commission’s Community Research and Development Information Service website at http://cordis.europa.eu/publication/rcn/11898_en.html for the 2007 report and http://cordis.europa.eu/projects/rcn/192455_en.html for the 2015 project.

⁸ See website at <http://www.hegesco.org/index.php> for further details.

skills. Reich (1991) picks up on this notion in his description of a “symbolic analysts” as a student who not only possesses discipline-specific knowledge but also “soft” or generic skills in the form of abstraction, system thinking, experimentation, and collaboration. Bennett, Dunne, & Carré (2000) identify something similar as “generic or transferrable skills.”

Anderson and Ferrell (2010) look beyond just specific skills, acknowledging a combination of personal characteristics, education, and knowledge as required or useful elements for employability. Specifically, they highlight a willingness to learn, a positive attitude, and personal initiative as key characteristics. Knight and York (2002), likewise, account for skills, personal qualities, and knowledge in their research on capabilities, which identify understanding, skills, metacognition, and beliefs about efficacy.

The trend over the last several decades is to view the goal of education as a means to enhance student employability (Curtis & McKenzie, 2002). This linkage between economic success and worker education is broadly known as human capital theory and refers to capabilities (Stephenson, 1998) and key skills (Bennett, et al., 2000). Enhancing the transition from student to employee, other educational concepts have emerged like work integrated learning (WIL) (see Coll & Eames, 2004), work based learning (WBL) (see Boud & Solomon, 2001), work related learning (WRL) (see Simons & Ruijters, 2008), and early organizational involvement (EOI) (see, Cord & Clements, 2010).

DeClou, Peters, and Sattler (2013) outline in

Figure 5 that there are many methods of integrating work and learning. Apprenticeships place learning in the workplace while field experiences and

internships are structured work experiences designed to familiarize students with the work environment. The one thing that each of the methods in

Figure 5 and the other concepts like WBL, WRL, and EOI have in common is that they use experiences to enhance work, or work experiences to enhance education. The commonality is experience. The use of experiences is featured prominently in Dewey's (1938) teachings about education and democracy.

Figure 5
Methods for Integrating Work and Learning.

Systematic Training	Structured Work Experience				Institutional Partnerships	
Workplace as the central place for learning	Familiarization with the world of work within a post secondary program				Post secondary program activities/programs to achieve industry or community goals	
Apprenticeships	Field Experience	Mandatory Professional Practice	Co-op	Internship	Applied Research Projects	Service-learning

Note. Adapted from "The University of Waterloo and Work-Integrated Learning: Three Perspectives" by L. Declou, J. Peters, and P. Sattler, 2013, p. 9.

2.1.2. Experiential Education. As early as the 1930s, John Dewey (1938) identifies that schools struggle with selecting and organizing subject matter to be taught and that this is a fundamental problem (pp. 95-96). How can universities meet the high demands of students if they continue to miss the mark when it comes to what and how to teach? The tendency to rely on lectures and "facts" confines students to a historical perspective and does not prepare them for challenges that they may encounter in the future (p. 92). Education centered on the delivery of information provided by a teacher is often counter to the purposes of education.

We chide those that teach by rote, and emphasize drills, memorization, and repetition over and against group work. We applaud discovery learning, and learning by doing. Why? One reason is that we believe that rote does not accomplish what it sets out to do: fashion students into critical thinkers. (Dewey, 1938, p. 10)

Dewey's understanding of using experience in education is not the only take on the issue. Roberts (2011) identifies four distinct stand alone perspectives that include (a) experience in the individual, (b) experience in the social, (c) experience in the political, and (d) experience in the market. While each has their place, Dewey's experience in the social is the focus here.

Although not a new concept in the field of education, Dewey's ideas about integrating past and present experiences in an effort to meet current and future needs are not what dominate today's educational systems. However, his views of experiential education, described here as a field, is the logical foundation for the ensuing discussion about Emergency Management education.

2.1.2.1. *Philosophical Grounding.* It has been argued that experiential education is in itself a philosophy (Itin, 1999, p. 97) while Roberts (2012, p. 7) describes it as a field where "common intellectual roots" can be identified. Such is the case of experiential education where influences of Romantic, Pragmatic, and Critical Theory thinking predominantly impact the field.

It can be seen that the individualized focus on the student and his or her place in contributing to a greater world is rooted in Rousseau's teaching and the Romantic notions. Practical experience with practical consequences that are contextually based and involve trial and error are linked with Pragmatic notions. Finally, there is a notion that education should be based on a quest for critical understanding rooted in critical pedagogy as opposed to superficial or explicit meanings (Roberts, 2012). With these three convergent perspectives in mind, the sections that follow examine the many facets of experiential education.

Perhaps, in its most simplistic form, experiential education can be thought of as a field of education that capitalizes on lived experiences in the construction and

interpretation of knowledge. Dewey's (1938) thoughts of the matter are expressed in his theory of inquiry.

2.1.2.2. Theory of Inquiry. Using experiences as a base, Dewey (1938) integrates a scientific method to direct learning and fully explore the lived experiences. He believes that the inquisitive nature of students drives their desire to transform themselves. According to Johnston (2009, p. 8), all inquiry is transformative and is guided by a desire to solve genuine problems (p. 14). Dewey strongly promotes the freedom to contextualize experiences by capitalizing on unique circumstances to understand, order, and control our interactions in and with the world around us. Inquiry is not seen as a method to be dictated but rather as a set of methods evolving through the context that is present (p. 3). If this sounds flighty, lacking structure and oversight, and uninformed, Dewey proclaims otherwise. Inquiry "requires deliberate and careful selection of techniques" (p. 14) and is best utilized in the education of students through laboratory experiments, aesthetic context, interpersonal context, public context, and movement. The experiences described in Figure 5 are but a sample of the techniques that may be used to enhance an undergraduate education in Emergency Management. Activity, or what Dewey (1938) calls an "increased measure of freedom of outer movement," (p. 70) is critical to allow the educator to understand the student. Through movement, the student "disclos[es] their real natures" (p. 70). Activity is not the endgame; what is important is what comes about from the added liberty (p. 70).

While experience is a central component of Dewey's avocations, it is not the sole focus. His perspective of truth in knowledge, questioning, and the reflection on the lived experiences are important concepts to address.

2.1.2.3. *Warranted Assertibility.* Fundamental to a discussion of Dewey's experiential education is the end goal. In Dewey's 1938 *Experience and Education*, his appreciation for and use of the scientific method is demonstrated. In spite of this, the quest for truths, or as Johnston (2009) calls "certainty," is not Dewey's focus. With certainty comes a constraint on learning, and it is not the point at which to begin and end learning (Crosby, 1981). "Truth contains too much baggage for us to be able to work with it satisfactorily" (Dewey, 1938, p. 24). In place of truths, Dewey refers to "warranted assertibility."

Truths are the domain of scientific knowledge and are perpetuated through the study of chemistry, physics, biology, mathematics, ecology, etc. Barnhardt and Kawagley (2005) find that "Western science and education tend to emphasize compartmentalized knowledge that is often decontextualized..." while Indigenous knowledge comes "through direct experience in the natural environment" (p. 11). Scientific knowledge, indigenous knowledge, or other forms of knowledge have little meaning in and of themselves. "Knowledge is useful to the extent that it can be swiftly recalled and turned without effort to practical ends" (Basso, 1996, p, 134).

The nature and fluidity of facts, certainty, and the issue of right or wrong is central in the field of experiential education. Individuals adamant in the belief of absolute principles, fixed truths, and certainty are not going to find satisfaction in Dewey's theory of inquiry. It can also be said that the proponents of Dewey's theory look suspiciously upon the solidification of information in present and future applications (Roberts, 2012).

2.1.2.4. *Critical Thinking.* Thinking about and questioning the world we live in is pervasive throughout experiential education. A collection of facts has little value if that information cannot be analyzed, critiqued, processed, and turned

into meaningful actions. Dewey (1938), like Plato before him (Graves, 1919) , encourages us to question and think critically. On the matter, Johnston (2009) says that “logic is a means to solve problems; not an intellectual end in itself” (p. 17). Facts that have been drilled through what Dewey calls traditional education systems limit creativity (Roberts, 2012). Drilling is a way of promoting an automatic response, a response that does not require thinking. Acting without thinking is not an expression of freedom but rather circumscribed exploits. Dewey (1938) warns against promoting thoughtless activity when he says:

Impulses are desires that are not ordered by intelligence and under the control of accidental circumstances. It may be a loss rather than a gain to escape from the control of another person only to find one's conduct dictated by immediate whim and caprice; that is, at the mercy of impulses into whose formation intelligent judgment has not entered. A person whose conduct is controlled in this way has at most only the illusion of freedom. Actually he is directed by forces over which he has no command. (pp. 75-76)

Actions performed in the absence of thinking are, as Dewey suggests, binding forces, dictated by externalities. With this in mind, thinking is part of the learning and acting process. Thinking in a holistic and informed way is part of experiential education and the learning that comes from it.

Critical thinking concepts have evolved since the time of Dewey and now include defined processes of both creative thinking and critical thinking (Root-Bernstein & Root-Bernstein, 1999). Collins and Peerbotle (2011) identify that more attention needs to be paid to critical thinking in Emergency Management education and Kiltz (2009) suggests utilizing problem solving, questioning, and discussions for this purpose. Ash and Clayton (2004) find that the best way to improve critical thinking and enhance the effectiveness of experiential learning is through reflection.

2.1.2.5. *Reflection.* As in Root-Bernstein and Root-Bernstein's (1999) work on creative thinking, Dewey places a great deal of importance on analyzing or

reflecting on events. Specifically for Dewey (1938), time is needed after experiences to “organize what has been gained in periods of activity” (p. 73). Dewey advocates for brief intervals of quiet and genuine reflection in order to help make sense of what has been seen, heard, and touched. Engaging in experiences just for the sake of experience is not enough.

Learning comes from these times of reflection on what happened during the experience, how it happened, and how that information may be used in the future. As an individual passes from one situation to another, his world, his environment, expands or contrasts. He does not find himself living in another world but in a different part or aspect of one and the same world. What he has learned in the way of knowledge and skill in one situation becomes an instrument of understanding and dealing effectively with the situations which follow. The process goes on as long as life and learning continue. (Dewey, 1938, p. 42)

Experiential education is not kid’s stuff. Boyd (1938) recognizes that “the older the pupils the worse the teaching” (p. 362) saying that the common lecture “is educationally unsound” (p. 363). Education that involves problem solving, questioning, and discussions, like those suggested by Kiltz (2009) is more in line with experiential practices. According to Dewey and proponents of experiential educational methods, experiences are constructed to provide opportunities for interaction and reflection. A teacher uses deliberate and calculated experiences from which rich reflection is possible as a means to activate learning.

Creating the possibility of reflection is not enough. Ash and Clayton (2004) find that the use of a structured approach “pushes students beyond superficial interpretations of complex issues; and facilitates academic mastery, personal growth, civic engagement and critical thinking” (p. 140). They find that reflection should include a (1) description of the experience, (2) an analysis of perspective (i.e., personal, academic, etc.), and (3) an articulation of the learning outcomes (Ash & Clayton, 2004; 2009). Their DEAL model of describing, examining, and articulating

learning has been found to be an effective measure of student learning (Moore, Henry, Sessa, & McKinney-Prupis, 2010).

Integrating these concepts into a progressive system of education requires the building of knowledge and skills consistent with defined goals or outcomes.

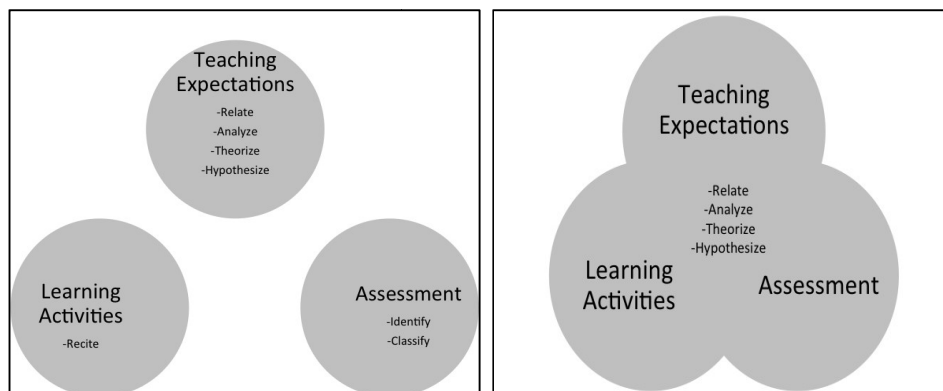
2.1.3. Constructive Alignment. The time spent thus far discussing experiential education provides one foundational tenant in the educational process. Utilization of experiences is constructed with defined outcomes in mind. If the purpose of education is something other than the Hindu practice of “stuffing of the memory” (Graves, 1919, p. 7), then the educational system should reflect that. The author Stephen Covey popularized the phrase “begin with the end in mind” in his book *The 7 Habits of Highly Effective People* (1989). Likewise, John Biggs and Catherine Tang (2011) recognize that education needed to define student outcomes as a starting point for which teaching and assessments can be aligned. This seems quite reasonable, but is it the way we operate?

Kandlbinder (2014) acknowledges that before Biggs and Tang, individual academics largely relied on their own experience to determine course content. This is not uncommon from what most people do today when asked to make a presentation. Instinctually, they sit down in front of a PowerPoint and begin typing away at key points. They may throw in the occasional picture to break things up. They may glance back to ensure they have enough slides and perhaps reorder a few. Without thinking about it, two assumptions are made by the presenter. First this presentation is developed, not from the audience’s perspective, but from a top-down, “stuffing” perspective. The presenter determines what is important for the audience to know. Secondly, the method of delivery was selected, even before consideration

of the content. In the absence of thought, the lecture becomes the default means of delivery for all information, regardless of feasibility or applicability.

The conveyance of information from a master to student is the model that originated in the Middle Ages. It is predicated on the notion that a teacher is all knowing and full of knowledge while the student is a blank slate or vessel to be filled. Coined by Paulo Freire as the “Banking Concept of Education” (1970/2005) or more commonly as “Banking Theory” today, this form of education relies heavily on teachers lecturing and students memorizing for later recall on some assessment. It focuses heavily on the teacher as the dominant role in the learning process. Student’s past knowledge, experiences, and interest are of little or no consequence.

Figure 6
Un-constructed Curriculum and Constructed Curriculum.



Shifting the role of learning from the teacher to the student begins to approximate a more student-centered approach. Biggs and Tang (2011) utilize such a student-center approach when constructing curriculum that account for teaching, assessments, and students as seen in **Error! Reference source not found..** In this context a teacher first asks the question; what is it that students gain from their participation? Participation, as opposed to attendance, is used here specifically to represent learning as an active process. Having first identified the intended learning outcome, the teacher, or presenter in this case, would then determine the best

method to achieve those outcomes. This strongly implies that there are more methods of “teaching” than the lecture. Exercises (Dohaney, Brogt, Kennedy, Wilson, & Lindsay, 2015; Nielson & Kitching, 2012), games (Kapp, 2012), and group work (Becker, 2000) are just a few. The third piece of this would then be to design assessments tasks catered to each outcome.

2.1.3.1. *Intended Learning Outcomes (ILO).* Through the establishment of clear intended learning outcomes (ILO), both teacher and student navigate along a shared path. Batten (2012) argues that an outcome-focus approach conceals a range of academic capitalism not so easily quantifiable. Angelo and Cross (1993) describe outcomes in terms of goals that serve to provide terminal and progressive benchmarks in their Teaching Goals Inventory. Biggs and Tang (2011) focus on ILOs as a way to align the understanding and expectations of those involved in higher education. They describe ILOs as action-oriented phrases with specific intention placed on the action or verb in relation to the level of intended outcome.

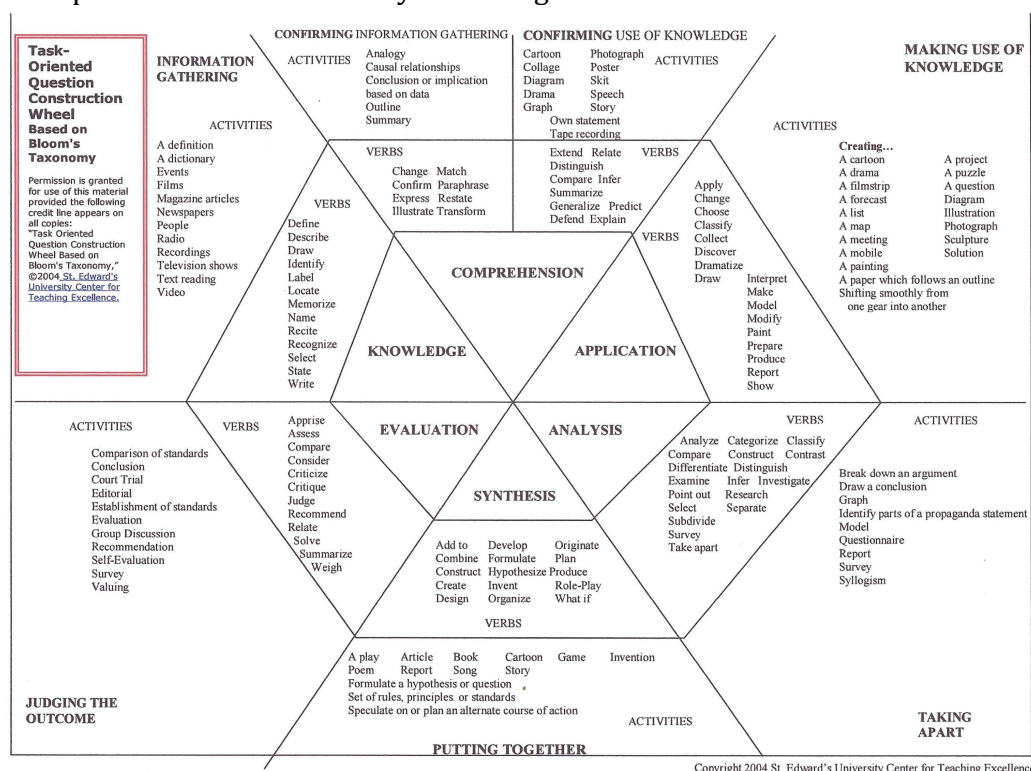
Table 2
Example Declarative and Functioning Knowledge Verbs by Level of Understanding.

Level of Understanding		Declarative Knowledge	Functioning Knowledge
	Prestuctural		
Surface understanding	Unistructural	Memorize, identify, recite	Count, match, order
	Miltistructural	Describe, classify	Compute, illustrate
Deep Understanding	Relational	Compare and contrast, explain, argue, analyze	Apply, construct, translate, solve near problem, predict within same domain
	Extended Abstract	Theorize, hypothesize, generalize	Reflect and improve, invent, create, solve unseen problems, extrapolate to unknown domains

Note. Adapted from “Teaching for Quality Learning at University,” by J. Biggs and C. Tang, 2011, p. 124. Copyright 2011 by Biggs and Tang.

They delineate two categories of outcomes as (a) declarative and (b) functioning. Declarative outcomes relate to the direct recall of knowledge, while functioning outcomes are involved with the use of that knowledge. Biggs and Tang offers examples of verbs for each category of outcomes based on a hierarchal level of understanding as seen in Table 2.

Figure 7
Example Verbs and Activities by Knowledge Dimensions.



Note. Reproduced from "Task Oriented Question Construction Wheel Based on Bloom's Taxonomy" by St. Edward's University Center for Teaching Excellence. Copyright 20104.

Biggs' sample verbs for ILO's is similar in structure and form to work attributed to Benjamin Bloom (1956) as the Bloom's taxonomy. Bloom's cognitive domain, that is most similar to Biggs' ideas of understanding, has evolved through the contributions of many refinements (see Anderson, et al., 2001) today. Bloom's taxonomy identifies hierarchal levels of knowledge dimensions and suggests verbs for the use in developing outcome statements. Figure 7 identifies the six knowledge

dimensions from (a) knowledge, (b) comprehension, (c) application, (d) analysis, (e) synthesis, and (f) evaluation along with associated verbs and activities for each.

2.1.3.1.1. *Transferable Skills.* Biggs' levels of understanding and the subsequent SOLO assessment taxonomy (Biggs, 2011) and Bloom's taxonomy (Bloom, 1956) share a progression beyond technical or subject matter expertise to more complex and higher order dimensions or understanding. More than knowledge alone, Anderson and Ferrell (2010) and Knight and York (2002) acknowledge that personal characteristics impacted a student's success. Researchers have noted that employers are less interested in technical skills in favor of generic skills (Harvey, Moon, Geall, & Bower, 1997; Harvey, Lock, & Morey, 2002), soft skills (Reich, 1991), or transferrable skills (Bennett, Dunne, & Carré, 2000). While Bridges (1993) brings up important distinction between these terms, the concept of education meeting not only the subject specific content but also a set of attributes applicable in broader than intended applications is the focus here.

There are many lists of skills or attributes that can be transferred from academia to the workplace or from one setting to another. Burke, Jones, and Doherty (2005) identify a group of transferable skills as (a) information retrieval and handling, (b) communication and presentation, (c) planning and problem solving, and (d) social development and interaction. Rasul, Rauf, Mansor, and Puvanasvaran (2012) use (a) basic skills, (b) thinking skills, (c) resources skills, (d) information skills, (e) interpersonal skills, (f) system and technology skills, and (g) personal qualities/values. Jauhari (2013) identifies (a) critical thinking, (b) analytical skills, (c) leadership skills, (d) team work, (e) communication skills, (f) self-management, (g) information technology skills, and (h) values of discipline and integrity. Jones (2013), investigating employee expectations and skills developed through

Table 3
Key Transferable Employability Skills and International Experiences.

	Key skills requirements for employees	Key skills developed through international work placement, study, volunteering or service learning
Self-sufficiency/self-efficacy skills	Self-awareness Initiative and enterprise Willingness to learn Planning and organizing Integrity Commitment/motivation Problem-solving Flexibility Self-management	Self-awareness, self-confidence, sense of identity, and personal independence Being informed, greater interest in global affairs and cross-cultural perspectives Organizational skills, project management, decision-making, creativity and taking on responsibility Vision, independence, experience, broader outlook and attitude Problem-solving, coping strategies and risk-taking Patience, flexibility, adaptability, open-mindedness and humanity.
People skills	Team working Communication skills Foreign language Networking Leadership Customer service Interpersonal skills Intercultural skills	Team work and team leadership skills Fluency, accuracy and appropriateness of language competence Mediation skills, conflict resolution, sensitivity, humility and respect Forging of relationships and networks Challenge to personal stereotypes, cultural relativism Enhanced intercultural communication, conducting business intercultural Cultural empathy Non-judgmental observation, respect for local values without abandoning one's own Cultural understandings, ways of thinking and adaptation to complex cultural milieux

Note. Adapted from "Internationalization and Employability: The Role of Intercultural Experiences in the Development of Transferable Skills" by E. Jones, 2013, *Public Money & Management*, 33(2), p. 101.

intercultural experiences, compares multiple skills list and groups them into (a) self-sufficiency/self-efficacy skills, and (b) people skills in Table 3. There is a great deal

of similarity in each of list of transferable skills presented and this will be discussed further in Chapter 4.

Teachers and curriculum developers should not expect that some magical set of skills would be transferred from their courses to other areas of a student's life. Just like ILOs need to be identified and planned for, so too do transferable skills. Alpay and Walsh (2008) found that with just three days of training, the impact on student's transferable skills persisted. While the teaching of such skills may be new in Emergency Management degree programs, it can be seen in other fields. Childs (2005) addresses the issue of critical reflection in the training of firefighters, Baum et al. (2013) discusses the training of teachers to build resilience in children, Schneider (2007) addresses teaching collaboration, and communication (Cave, Washer, Sampson, Griffin, & Noble, 2007) and many researchers address teamwork (Conyne & Bemak, 2004; Marotta, Peters, & Paliokas, 2000; McCarthy, 2013; McKendall, 2000; Moe, Autry, Olson, & Johnson, 2014; Moreland, 2013).

If students are expected to leave higher education with transferable skills, then such skills should be integrated into the curriculum. Teaching of transferable skills is not solely the purview of small classrooms, but these activities are wide reaching with applicability in large lecture halls (Bailey, Minderhout, & Loertscher, 2012) and online classes (McLuckie & Topping, 2004).

It could be viewed that transferable skills specifically, or ILOs generally, are only applicable at the course level. Fuess and Mitchell (2011) say that programs should use strategic planning to align program activities with institutional goals and Wass, Harland, and Mercer (2011) describe their success aligning course level ILOs with

program ILOs. Biggs and Tang (2011) state that ILOs are applicable at not only the course and institutional level but also for programs⁹.

ILOs serve as the foundation of expectations in curriculum. They are the guiding force in what is taught, learned, and assessed. As others have addressed the development of ILOs more completely than is practical in this work (see Biggs & Tang, 2011; Hook, 2012; Nasrallah, 2014; Schalkwyk, 2015; Toohey, 2002), it is now time to look at the role of teaching and learning activities.

2.1.3.2. Teaching/Learning Activities (TLAs). Because of a pervasive notion in education that “everything seems to work,” Hattie (2009) undertook a meta-analysis comprised of over 50,000 research studies related to achievement. Hattie identified teacher and learner based activities as some of the most influential aspects of student achievement. Likewise, Biggs & Tang (2011) focus on these two aspects. When considering the student as a learner, Craik and Lochard (1972), Biggs (1984; 1987a), and others, recognize the importance of accounting for diverse student motivations. Issues of motivation have been linked to McGregor’s Theory X and Theory Y (1960), popular in organizational psychology. These motivations are salient in how both teacher and students approach learning (Roache & Roman, 2011; Titsworth, McKenna, Mazer, & Quinlan, 2013; Trigwell & Prosser, 1991). Studies by Biggs (1987b), Entwistle and Ramsden (1983), and Marton and Saljo (1976a; 1976b) began to classify different approaches to the activities of teaching and learning. Biggs and Tang (2011) acknowledge three common theories or what could be described as a “sequence in the development of teachers’ thinking and practice” (p. 16).

⁹ Recognizing that universities use different terms, Biggs refers to institutional ILOs to refer to the university graduate outcome. The program level refers to the degree conferred and the course level is the individual paper, unit, module, or subject.

2.1.3.2.1. *Level 1.* One of the earliest concepts in education directly relates to Level 1 teaching. Based on Biggs and Tang (2011), at this early stage of many teaching careers, the focus is on what the student is. It involves labeling students as bad or good, Theory X or Theory Y, or extrinsically or intrinsically motivated. The teacher is largely concerned with content and clarity of knowledge transmission. It has already been discussed the Hindu of the Ancient Orient and the universities of the Middle Ages practiced a “stuffing of the memory” (Graves, 1919, p. 7) or what Freire (1970/2005) calls banking. Level 1 teaching is predicated on a set of notions where the teacher plays the role of the oppressor whose job it is to bestow knowledge on the student, or as Freire calls them, the oppressed. The relationship between teacher and student is one in which:

- the teacher teaches and the students are taught;
- the teacher knows everything and the students know nothing;
- the teacher thinks and the students are thought about;
- the teacher talks and the students listen—meekly;
- the teacher disciplines and the students are disciplined;
- the teacher chooses and enforces his choice, and the students comply;
- the teacher acts and the students have the illusion of acting through the action of the teacher;
- the teacher chooses the program content, and the students (who were not consulted) adapt to it;
- the teacher confuses the authority of knowledge with his or her own professional authority, which she and he sets in opposition to the freedom of the students;
- the teacher is the subject of the learning process, while the pupils are mere objects. (Freire, 1970/2005, p. 73)

Biggs and Tang (2011) describe Level 1 teaching, with its unidirectional techniques for transmission and assessment, as the default system of education around the world. Even proponents of such a system recognize that it inadequately serves as a viable method to enhance critical thinking (Bligh, 1971).

2.1.3.2.2. *Level 2.* Characteristic of the complex understanding of material, Level 2 teaching “requires much more than chalk and talk” (Biggs & Tang,

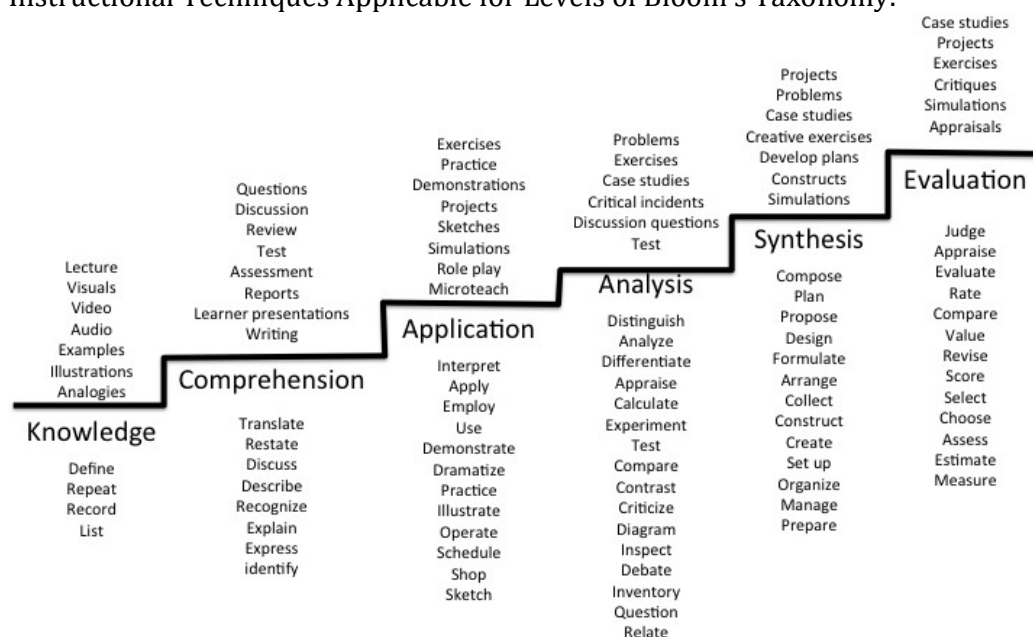
2011, p. 19). While still based on a model of knowledge transmission, this more advanced form of teaching also incorporates the transmission of concepts and understanding (Prosser & Trigwell, 1999). Teachers at this stage are seen as amassing an armory of techniques. The focus here is on the teacher, but it is more than just what they do and how they do it. Careful attention needs to also be placed on understanding why and when interventions or techniques are used. Ultimately, techniques are only a means, and the real measure of success is student learning (Biggs & Tang, 2011).

2.1.3.2.3. *Level 3.* Rousseau (1762/2002) acknowledged that the highest forms of teaching must account for a student's interest and natural abilities. These should guide their education. Even earlier, Comenius advocated for an elevation of the student from the oppressed to that of a position of mutual respect between themselves and the teacher (Graves, 1919). At Level 3, teaching progresses from the initial stage of what the student is, through the intermediate stage concerned with what the teacher does, to focuses on what the student does as the highest level. Teaching techniques like case studies, projects, critiques, and simulations are used to evoke students to judge, appraise, evaluate, and estimate. Level 3 teaching involves (a) identifying ILOs, (b) determining the level of student understanding, and (c) selecting appropriate teaching techniques in order to achieve the desired understanding of each outcome (Biggs & Tang, 2011). Figure 8 provides a sample of teaching techniques and outcome actions associated with each level of knowledge (see Bloom's Digital Taxonomy at <http://edorigami.wikispaces.com> for updated resources). In Level 3, there is an elevation from knowledge acquisition to analysis, synthesis, and evaluation.

Constructive alignment addresses (a) what should be taught in the form of ILOs, (b) the methods of delivery with preference for focusing on what the student does at Level 3, and (c) the means for validating or assessing that the selected methods have successfully reached the ILOs. The next section addresses this third component.

Figure 8

Instructional Techniques Applicable for Levels of Bloom's Taxonomy.



Note. Reproduced from "Suggested Instructional Strategies for Use with Each Level of Bloom's Taxonomy" by Nature Resources Conservation Service. Retrieved from <ftp://ftp-fc.sc.egov.usda.gov/NEDC/isd/taxonomy.pdf>

2.1.3.3. Assessment Task (AT). It has already been noted that student assessments date back to around 500 BC as part of the State sponsored Athenian education system (Seeley, 1899). This led to a rich and diverse body of research and writings on the subject of academic assessments (Berry & Adamson, 2011; Bloom, Hastings, & Madaus, 1971; Bloxsham & Boyd, 2007; Ifenthaler, Eseryel, & Ge, 2012; Iskander, 2008; McMahon, 2006; Middaugh, 2010; Nusche, 2008; Reynolds, Livingston, & Wilson, 2009; Richardson & Coates, 2014). Fletcher et al. (2011) finds that students perceive assessments as irrelevant to education, Boyd (1938) condemns them as "evil influences" (p. 246) on school life, and many have

documented the physical and mental strain associated with testing (Gaudry & Spielberg, 1970; Zilliagus, 1938), leading to question why assessments are even necessary. This section cannot hope to answer or synthesize all of assessment literature, but it is important to look at some of the issues, categories of assessments, and a few examples and to see how they are linked with ILOs and a constructively aligned curriculum.

2.1.3.3.1. *Assessment for Learning.* Earl (2013) describes three roles of assessment as (a) for learning, (b) as learning, and (c) of learning. Assessment for learning serves to “highlight each student’s strengths and weaknesses and provide them with feedback that will further their learning” (p. 27). Assessment for learning relies heavily on teacher’s knowledge of individual students, their ability to diagnose learning needs, and their ability to provide feedback to students in order to meet upcoming assessment goals. This role has come to be known as formative evaluation, coined by Scriven (1966) to describe the process of integrating feedback into a curriculum in process. Formative evaluation is often associated with curriculum-based measurement (Deno, 2003), teaching, and student progress while engaged in learning (Bloom, Hastings, & Madaus, 1971). It is the feedback during the learning process that leads to successful testing.

2.1.3.3.2. *Assessment as Learning.* Earl (2013) advocates that using assessment as learning deserves more emphasis than the other two roles. Assessment as learning elevates the student from the oppressed, or vessel to be filled to a reflective role of critical thinking where they becomes the assessor. In the role of the student assessor, they take responsibility for their learning by monitoring the process and content “to make adjustments, adaptations, and even major changes in what they understand” (p. 28). Not only can students monitor progress, they are

also motivated to a higher standard (Walser, 2009), and engaged in more meaningful learning (McMillan & Hearn, 2009). Taras (2010) describes multiple models of self-assessment that engage students in a power sharing arrangement with teachers. Hattie (2009) finds that the number one influence in student's achievement is self-assessment in the form of self-reported grades.

2.1.3.3.3. *Assessment of Learning.* Assessment of learning has largely, although unjustly, dominated traditional ideas of student assessments. They are in the form of test or exams that are said to quantify a student's learning (Earl, 2013). They are summative in nature and "terminal" in design (Scriven, 1966, p. 5); they serve to "grade and classify" students (Bloom et al., 1971, p. 7) and "contribute little to the improvement of teaching and learning" (p. 7). Earl (2013) suggests that summative evaluations may play a role, while others continue to question their value and offer much criticism (Marzano, 2000).

2.1.3.3.4. *Group Assessment.* As has been discussed earlier with Biggs and Bloom, summative assessments are not limited to multiple-choice tests and essay exams. A multitude of methods may be used to perform assessments of higher-level understanding. Here is a look at just two examples that appear in the literature: (a) group assessments and (b) portfolio assessments.

The ability to work as a member of a team is critically important in the workforce (Anderson & Ferrell, 2010; Rasul et al., 2012), and Anderson and Ferrell (2010) found that over 50% of employers listed it on job descriptions. Angelo and Cross (1993) identify group work in two of their Teaching Goal Inventory items: Liberal Arts and Academic Values and Work and Career Preparation. In a study of group work by Joyce & Elliot, teachers reported "tangible benefits related to the development of communication and negotiation skills" amongst students (as cited in

Moore & Hampton, 2015). In another study, students reported that group work, particularly with international members, enhanced diversity of perspectives and intellectual resources to address problem-based learning, as well as provided “authentic experiences that could prepare them for work” (Montgomery, 2009, p. 264). Craid and Piškur (2012), likewise, found that students reported greater cultural sensitivity and improved techniques to overcome interpersonal challenges.

Not all students enjoy group work (Shah, 2013) with students from one university listing it as one of the top ten “suckful” things (as cited in Strauss, 2007, p. 149). One reason cited by students for disliking group work is the grading process. Some reports suggest that group assessments bring down the grades of high achievers while having the opposite effect on low achievers (Almond, 2009, 2013; Gibbs, 1995). Straus & U (2007) found that group work, particularly with international members, brought down individual marks, while de Vita (2002) found the opposite. Students in a New Zealand study, largely (55%) found that their grades were similar between group and individual grades (as cited in Moore & Hampton, 2015). Grade normalization techniques have been proposed by Li (2001) and Bushell (2006) to address some of these concerns.

Several studies have found that an assessment strategy comprised of multiple or diverse assessment methods, like group-writing, interviews, and confidential self and peer-assessments, enhance student engagement and promote higher order learning (Langrish, & See 2008; Quintana, Ruiz, & Vila, 2014; Ransden, 2003). The literature further suggests that students should play a salient role in the development and criteria of assessments (Falchikovab, 2013; Searby & Evans, 1997). Kuisma (1998) found that students wanted to and felt that it was important for them to be involved in assessments. Goldfinch (1994) and Lejk and Wyville (2002)

advocate the use of student and peer assessments against a list of categories to help guide the process.

Maguire and Edmondson (2001) provide a cautionary note about group work saying that students should be provided training in group management strategies to mitigate interpersonal and time management issues.

2.1.3.3.5. *Portfolio Assessment.* Much of group work is assessed in the form of a portfolio as a means to evaluate student's application of knowledge (Angelo & Cross, 1993) in what Smith & Tilleman (2001; 2003) call a training portfolio. This type is associated with formal education as opposed to other portfolios that may be used for professional certification, promotion, or for personal growth. They have long been used in arts education (Mietzner & Kamprah, 2013) and have found their way into architecture (Marjanović, Ray, & Lokko, 2003), medicine (Rossetti, et al., 2012), and marketing (Mummalaneni, 2014). Viewed largely as formative in nature (Sadler, 1998; Zeichner & Wray, 2001), portfolios promote the type of student reflection (Tilleman & Smith, 2000; van Tartwijk & Deissen, 2009) that Dewey (1938) described as so beneficial to learning. Popescu-Mitroia, Toderescu, and Greculescu (2015) found that students self-corrected their own learning, developed self-assessment capabilities, and reported less stress compared to other assessment techniques. They also found that students reported the advantages of portfolios as a way to put theory into practice, as a motivation for learning, as a way to promote creativity and originality, and as a way to synthesize information.

From intended learning outcomes, to teaching/learning activities, and assessment task, I have relied heavily on the work of John Biggs' (2007; 2011) work on constructive alignment. In part, this is because of its historical use in diverse

disciplines like biology (Wang, Schemvri, & Hall, 2013), engineering (Borrego & Cutler, 2010; Townsend & Urbanic, 2013), nursing (Joseph & Juwah, 2012), and technology (Kenney, 2012). Constructive alignment has been applied at the institutional level (Oliver, 2013), as well as in work-based learning (Walsh, 2006) and distance education (Rogerson-Revell, 2015). Constructive alignment is not just an academic concept or New Zealand phenomenon but can be found in use across multiple geographic locations like Australia (Larkin & Richardson, 2013; Oliver, 2013), Canada (Townsend & Urbanic, 2013), China (Wang, Su, Cheung, Wong, & Kwong, 2013), Sweden (Vanfretti & Farrokhabadi, 2014), Pakistan (Ullah, Khattak, & Siddiq, 2011), Saudi Arabia (Kabouha & Elyas, 2015), the UK (Caruana & Mcpherson, 2015), and many others.

Constructive alignment is a way for teachers to clearly identify learning outcomes, consider both teaching and learning activities appropriate for those outcomes, and implement assessment tasks appropriate for the desired outcomes. Constructive alignment is a method for developing curriculum at the course, degree, and university levels.

2.1.4. Block Courses. One application by which constructive alignment can be used to develop a curriculum is in what has grown to be known as block courses or immersion programs. Popularized by Colorado College, who in 1970, converted all of their traditional courses that met for a few hours each week for an entire semester over to a block plan where students take one class at a time that met daily for three and a half weeks (Brooks, 2012). The concept of immersing students in a subject has a long history in second language acquisition programs (Keegan, 1996; Tedick, Christian, & Fortune, 2011). The format has been used with diverse age ranges from preschoolers (Hickey & de Mejia, 2014) to adults. Its use can be found

in mathematics (Kramer, 1997), management (Burton & Nesbit, 2008), medicine (Marinović et al., 2009), psychology (Richard, Murphy, Curl, & Broussard, 2015), skills-based courses (Scott, 2008), and many more (Daniel, 2000). Most institutions follow the Colorado College model while a few schools have implemented entire immersion semesters (see Brevard College at <https://brevard.edu/academics/WLEE>).

Block courses have been shown to positively affect school atmosphere, student discipline, attendance, teacher attitudes, failure rates, and drop-out rates (Kramer, 1997). Soldner, Lee, and Duby (2000) also find that block courses increase retention. Others find that students in block courses perform better at critical thinking tasks (Burton & Nesbit, 2008) and outperform traditional classes on assessments (Richard et al., 2015). Teachers seem to like the format (Helfand, 2013) where they can develop more of a rapport with students as evident by higher instructor evaluations (Richard et al., 2015).

Block courses delivered for a few weeks or over an entire semester give students an opportunity to focus intensely on one subject and explore concepts in depth. They allow students to engage in project-based learning where their interest can help guide their own discovery and learning. In the field of Emergency Management, there are surely institutions offering such courses in the form of weekend schools, block courses, or capstone projects, although the published literature fails to address the issue.

2.1.5. Gaps in Comparative Education. Emergency management education as a field of study generally suffers from a lack of published research on the topic. Most of what is written is from US based institutions; however, Manock (2001) has written on Australia; Lixin, Li, Zhou, and Lingling (2011) on China; Ural (2004) on

Turkey; Hosseini and Izadkhah (2010) on Iran; May (2003) on Canada; Britton (2004) and Glassey (2008) on New Zealand; and Wallace, McLean, Parrish, Soppitt, and Silander (2011) on the U.K.; and Britton (2004) on Japan among others. This study fills a gap between the single country work already mentioned and the comparative education literature like that of Jones (2007) on international relations and Moore, Trujillo, Stearns, Basurto-Davila, and Evans (2009) on international lessons learned.

2.2. Emergency Management Literature

Contributions to the field of emergency management come from the full range of academic disciplines providing for a rich multidisciplinary area of study. This section looks specifically at the emergency management related literature dealing with higher education academic programs. It starts by discussing the published literature on Emergency Management education from different country perspectives before comparing key works. Recognizing that not all Emergency Managers pursue a degree, it is salient to review the availability and role that professional development training plays in the field. As education and training will suggest, the field of Emergency Management is not homogeneous, and so this chapter concludes with a look at various professional tracks.

2.2.1. Emergency Management Education. Current published research offers little in the way of information that would provide a clear picture of the demographics and motivations of individuals seeking Emergency Management degrees. One study of 58 US based institutions in 2010 did show that the student body is largely male (60%) with around 2000 students expected to graduate that year and just over 11,300 graduating to date (Cwiak, 2010). The same study indicated that institutions focused more heavily on education geared towards the

governmental career tracks over the business track and that advanced education (graduate degrees) were offered about equally as pre-employment (undergraduate degrees). These results provide a single snapshot of a small number of institutions offering degree programs. Additional research in the area is needed to understand learner motivations, employment trends, and any relationships between degree content and professional attributes.

A 2011 review of Emergency Management related academic programs shows their variety and preponderance. In that review of over 500 programs, over ten different academic departments were represented to include business, economics, health sciences, physics, public safety, and public policy. In the same study, over twenty different degrees relating to Emergency Management were offered to include: administration, floodplain management, risk management, climate risk, international diplomacy, biosecurity, natural hazards, development, engineering, safety management, and computer security (Hurtes, 2011a). Emergency Management academic programs find themselves located across the spectrum of these departments in universities around the world, which can provide for little commonality. Defense, security, and war related academic programs invariably recognize, define, and propose different solutions than counterparts from the earth or environmental sciences, planning, international relations or political science departments (Drabek, 2007).

As much as possible, the focus of the following sections largely ignores the allied discipline specific aspects from fields like nursing and engineering, in favor of highlighting the Emergency Management discipline itself. A review of academic attributes is provided from multiple geographic regions before acknowledging the role that professional development plays in the field.

2.2.1.1. Attributes. With work from academics like May (2003) and Nirupama and Edkin (2009) in Canada, Alexander (2003) in the U.K., Blanchard (2003a, 2003b, 2005), Brown (2004), Cwiak (2010, 2011), Emergency Management Institute (FEMA, 2005a, 2005b), Etkin (2006), Green (2000), Marks (2005), Shaw and Harrald (2004), and Spiewack (2005) in the US, and the Ministry of Civil Defence Emergency Management (MCDEM) (2011) in New Zealand, a few trends have developed in defining the important attributes for practitioners and goals of academic programs. It is through these attributes that this research focuses on preparing an all-hazard workforce with the foundational tenets of a curriculum applicable in diverse regions such as the US and New Zealand.

2.2.1.1.1. United Kingdom Efforts. The UK has had a long history with disasters and the development of commonly accepted attributes for managing them. *Table 4* provides a timeline of some key contributions in this area.

Initiated in 2007, the Civil Contingencies Secretariat (CCS), led by the National Security Advisor under the direction of the Prime Minister, is “responsible for work to improve the UK’s ability to prepare for, respond to, and recovery from emergencies” (<https://www.gov.uk/government/policies/improving-the-uks-ability-to-absorb-respond-to-and-recovery-from-emergencies>). The CCS has overseen the creation of unit standards under the National Occupational Standards (NOS) umbrella. The bulk of the standards related to civil contingencies begin at Level 4, which is comparable to an undergraduate certificate. They include issues of cooperation, information sharing, risk assessment, evaluating plans, exercise management, warnings, recovery, assistance, and tactical operations. The second UK based scheme is provided by the Emergency Planning Society (EPS) in their *Core Competencies Framework* developed in 2006 and revised in 2011. Developed in

Table 4
Timeline of Select UK Contributions to Emergency Management Academic
Attributes.

Year	Contribution
1990	Report of the Working Party Group on the Training and Qualifications of Emergency Planning Officers to the Association of Civil Defence and Emergency Planning Officers ¹⁰
1991	Emergency Planning: A Qualification presentation at the 2nd Disaster Prevention and Limitation Conference (Carroll) ⁵
1997	Turning a Job Into a Profession: The Case for Professional Emergency Management in the UK paper presented at the 4th International Emergency Planning Conference (Coles & Smith) ⁵
1999	Standards for Civil Protection in England and Wales (Home Office, 1999)
2002	Competence in Emergency Management (Dubois) ¹¹
2003	Towards the Development of Standards in Emergency Management Training and Education (Alexander, 2003)
2005	Bridging the Divide from Theory to Practice (Stuart-Black, Coles, & Norman, 2005)
2006	Emergency Planning Society initiate work on Core Competency Framework (EPC, 2011)
2007	Developing National Occupational Standards for Civil Contingencies: Desk Research Report (Skills for Justice, 2007) Emergency Planning Competences: A Critical Review of Possible Frameworks (EPC, 2007) ⁶
2008	Moving Civil Protection Forward: Report of the Core Competences Project Board (Coles & Ovey, 2008) Functional Map for Civil Contingencies (Skills for Justice, 2008)
2010	Training Endorsement Scheme Handbook (EPS, 2010)
2011	Turning a Job into a Profession? Competences, Qualifications and Cultural Change in Emergency Management paper presented at the 1st International Conference in Safety and Crisis Management in the Construction, Tourism and SME's Sectors (Coles) ⁵ The Emergency Planning Society Core Competences Framework (EPS, 2011)
2014	A Real Profession or Simply 'professional'? Some Thoughts on the Status of Emergency Management in the UK (Coles, 2014)

partnerships with the CCS, the EPS has added additional competencies and descriptors. The EPS's competencies are intended as a guide for job seekers, as a professional development guide, and as a "framework for an academic qualification,

¹⁰ As cited in "A Real Profession or Simply 'professional'? Some Thoughts on the Status of Emergency Management in the UK" by E. L. Coles, 2014.

¹¹ As cited in "Developing occupational standards for civil contingencies: Literature review and international benchmarking" by Skills for Justice, 2007.

training course, a professional qualification or a basic skills course” (2011, p. 3). The EPS identifies twelve “areas that are considered to be essential to the practice of Emergency Management” (p. 4) with supporting sub-categories that include understanding and knowledge, skills, performance criteria, behaviors and attitudes, and professional outcomes. *Table 5* provides a list of the EPS competencies and those offered by the NOS.

Table 5
UK Core Competencies.

Competency	EPS Inclusion	NOS Inclusion
Theories and concepts in emergency management	EPS01	-
Anticipate and assess the risk of emergencies	EPS02	AB
Plan for emergencies	EPS03	AC
Plan for business continuity	EPS04	AD
Validate emergency or business continuity plans	EPS05	AE
Communicate with the community to enhance resilience	EPS06	AF
Manage response to emergencies	EPS07	AG
Manage the recovery from emergencies	EPS08	AH
Act effectively across your organizations	EPS09	
Cooperate with other organization	EPS10	AA
Debrief after an emergency, exercise or other activity	EPS11	
Manage computer generated data to support decision making	EPS12	-

Note. Adapted from “Moving Civil Protection Forward: Report of the Core Competences Project Board” by Coles & Overy, 2008 and “The Emergency Planning Society Core Competences Framework” by the Emergency Planning Society, 2011.

2.2.1.1.2. New Zealand Efforts. In New Zealand, MCDEM Director

John Hamilton recognizes that:

The New Zealand public has high expectations of the Civil Defence Emergency Management (CDEM) sector to lead the way in reducing risk, ensuring preparedness, and responding to and recovering from civil defence emergencies. It is up to us to ensure our communities that those they put their trust in are professional, well-trained, and competent to lead them toward “A Resilient New Zealand”. (MCDEM, 2010a, p. 4)

To this end, New Zealand has established its own set of competencies for Emergency Managers under the CDEM Act 2002 in the form of the *Civil Defence*

Emergency Management Competency Framework released in 2009. Position specific role maps and a toolkit were released in subsequent years. Table 6 provides a timeline of select events in the development and application of competencies in New Zealand.

Table 6
Timeline of Select New Zealand Contributions to Emergency Management Academic Attributes.

Year	Contribution
2005	Bridging the Divide from Theory to Practice (Stuart-Black, Coles, & Norman, 2005)
2007	Competency Literature Review (MCDEM, 2007a)
2009	Civil Defence Emergency Management Competency Framework (MCDEM, 2011)
2010	Civil Defence Emergency Management Competency Framework Role Maps (MCDEM, 2010b) CDEM Competency Framework Toolkit: Development Needs Analysis (MCDEM, 2010a)
2011	Civil Defence Emergency Management Competency Framework revised (MCDEM, 2011)

The Competency Framework (MCDEM, 2011) identifies 32 competencies and groups them into eight key areas. MCDEM recognizes that not all competencies may be equally applicable to individuals filling a variety of roles. They delineate the level of relevance and a level of proficiency of each competency for 14 different roles.

Table 7 provides a summary of the competencies, roles, their relevance level, and their proficiency levels.

The New Zealand competency framework is unique from others discussed so far in that it defines relevancy and proficiency of each competency based on defined roles (controller, recovery manager, public information manager, EOC staff, welfare, lifelines utility coordinator, agency representative/liaison officer, response team, unassigned volunteers, emergency management advisor, hazard analyst/planner, senior executive, group manager, and emergency management officer). MCDEM has

Table 7

New Zealand Core Competencies with Position Specific Relevance and Proficiency Levels.

Key Areas & Competencies	Positions														
	Controller	Recovery Manager	Public Information Manager	EOC Staff	Welfare	Lifelines	Agency Representative	Response Team	Volunteers	EM Advisor	Hazard Analyst	Senior Executive	Group Manager	EM Officer	
RM-Relationship management															
RM01-Relationships with key individuals, partner organizations and communities are established	3	3	3	3	2	3	2	3	2	3	2	3	3	3	2
RM02-Established relationships are actively managed & sustained	3	3	3	2	3	2	3	2	3	2	2	3	3	3	2
IM-Information management															
IM01-Information needs are identified & understood	3	3	3	2	3	3	2	3	2	3	2	3	2	3	2
IM02-Information systems and 6 processes are developed	3	3	3	2	3	2	3	2	3	2	2	3	2	3	2
RS-Risk management															
RS01-Hazards & risks are recognized, understood, & communicated	3	3	3	2	3	2	3	2	3	2	3	3	3	3	2
RS02-Risk management is understood & applied	3	3	2	2	2	1	3	2	3	2	3	3	3	3	2
RS03-Risk management processes & outcomes are monitored, evaluated, & reviewed	2	3	2	2	2	1	3	1	2	1	2	3	3	3	2
PL-Planning															
PL01-Purposes and objectives of plans are agreed & understood	3	3	3	3	3	3	3	2	3	1	3	3	2	3	2
PL02-Plans are developed, written & maintained in accordance with the agreed purpose & objectives	3	3	3	3	3	3	3	2	3	1	3	3	2	3	2
PL03-Plans are coordinated & integrated across all levels & partners															

PL04-Plans are evaluated & updated
 3 3 2 2 2 2 3 2 3 2 3 3 3 2 3 2 1 1 3 3 3 2 3 3 3 3 2

IP-Implementation

IP01-Assigned EOC roles are performed in accordance with existing plans & standard operating procedures
 3 3 2 2 3 2 3 2 2 2 3 3 2 1 1 3 1 3 3 1 2 2 2 3 3 3 2

IP02-Emergencies are managed in accordance with the scale of activity, existing plans, & standard operating procedures
 3 3 3 2 3 2 3 2 3 2 3 3 3 2 3 2 3 1 3 2 1 2 3 3 3 3 2

IP03-Human resources are managed in order to achieve maximum effectiveness
 3 3 3 2 2 1 3 1 2 2 2 1 2 1 2 2 1 1 2 1 1 3 2 3 2 3 2

IP04-Physical resources (facilities, vehicles, equipment, etc.) are sourced, operated, and maintained in order to achieve maximum effectiveness
 3 3 3 2 2 2 3 2 2 2 3 2 3 2 2 2 2 1 2 2 1 2 2 2 3 2 3 2

IP05-Financial management processes are implemented & funds allocated
 2 3 3 2 1 1 2 1 2 2 1 1 2 1 1 1 1 2 1 1 1 3 3 3 2 2 2

CM-Communication

CM01-Effective communication with partners & communities is achieved at all levels & across all functions
 3 3 3 2 3 3 3 2 3 2 3 2 3 2 2 2 2 1 3 2 3 2 3 3 3 3 2

CM02-Public education/risk communication programs are developed to support community readiness & risk reduction
 2 2 2 2 3 3 1 2 2 1 2 2 2 2 1 1 1 1 2 3 2 2 2 3 3 2 2 2

CM03-Public information messages are developed & disseminated during response & recovery
 3 3 3 2 3 3 2 2 2 2 2 2 1 2 2 1 1 1 2 2 2 2 2 2 3 3 3 2

CM04-Media are engaged in public information management & public education
 3 2 2 2 3 3 2 1 2 1 1 1 1 1 1 1 1 2 1 1 1 3 3 3 2 2 2

CD-Capability development

CD01-Capability development opportunities are actively sought & undertaken
 3 2 3 3 3 2 3 2 3 2 3 3 3 2 3 1 3 1 3 2 3 2 3 3 3 3 2

CD02-Training and education programs are developed & delivered
 3 2 1 2 1 2 2 1 2 2 2 2 2 1 3 2 1 1 2 1 1 2 2 3 3 3 2

CD03-Exercises are developed & carried out
 3 3 2 2 2 2 3 2 2 2 2 2 3 2 3 2 1 1 3 2 2 2 2 3 3 3 3 2

CD04-Capability development opportunities are provided to build a workforce of competent personnel

3 3 1 2 2 2 2 1 3 2 2 1 2 1 2 1 1 1 2 2 2 2 3 3 3 3 3 2

CD05-Organizational capability is monitored & evaluated

3 2 1 1 2 1 2 2 2 2 2 2 2 1 2 1 1 1 2 2 1 1 2 3 3 3 2 2

LD-Leadership

LD01-A vision is developed & articulated

2 2 2 2 2 2 1 1 2 1 2 1 2 1 1 1 1 1 2 2 1 2 3 3 3 2 2 2

LD02-An environment is created that empowers others to act & succeed

3 2 2 2 2 2 3 2 2 2 2 2 2 2 2 1 1 1 3 2 2 2 3 3 3 2 3 2

LD03-Leadership is demonstrated through strategic decision making that influences others & drives change

3 3 3 3 3 2 3 2 2 2 3 2 2 2 3 1 2 1 3 2 2 2 3 3 3 3 3 2

LD04-Leadership is demonstrated through professional conduct & effective self management

3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1

Note: Relevance levels indicated in shaded 3 denotes highest relevance, 2 denotes moderate relevance, and 1 denotes lower relevance. Proficiency level 3 denotes advanced expertise or significant leadership, 2 denotes supervisory or experienced, and 1 denotes all practitioners. Adapted from "Civil Defence Emergency Management Competency Framework by New Zealand Ministry of Civil Defence and Emergency Management, 2011.

provided more detail for each position identified in the competency framework, in position specific role maps (see MCDEM, 2010b 2010c).

2.2.1.1.3. *United States Efforts.* In the US, FEMA’s Emergency Management Institute (EMI) has brought higher education institutions together since 1994 as part of the Higher Education Program under the direction of Dr. Wayne Blanchard. By far, the vast majority of work done on academic attributes in the US is under the coordination of the EMI Higher Education Program. *Table 8* provides a timeline of select contributions where EMI’s contributions are evident. Since 2001, academic attributes have been discussed at annual conferences (FEMA, 2001) and EMI has sponsored a variety of efforts focused on the topic (O’Connor, 2005). Blanchard was invited to discuss what he saw as the core competencies for successful 21st Century hazard managers at the 2003 Annual Hazards Research and Application Workshop (NHC, 2003).

Table 8
Timeline of Select US Contributions to Emergency Management Academic Attributes.

Year	Contribution
1996	Florida Resource Center (FRC) provides curriculum framework to St. Petersburg Junior College (FRC, 1996)
2001	FEMA Higher Education Conference breakout sessions discusses Associate level core & Bachelor level competencies (FEMA, 2001)
2002	FEMA Higher Education Conference breakout session discuss 21st century EM (FEMA, 2002)
2003	<p>Annual Workshop on Hazards Research & Application titled “Hazard Managers in the 21st Century: Needs in Higher Education”</p> <ul style="list-style-type: none"> • Designing educational opportunities for the hazard manager of the 21st century (Thomas & Mileti, 2003) • Outlines of competencies to develop successful 21st century hazard or disaster or emergency or hazard risk managers (Blanchard, 2003a; NHC, 2003) <p>FEMA Higher Education Conference breakout session discussed EM core curriculum (FEMA, 2003)</p>
2004	<p>FEMA Higher Education Conference</p> <ul style="list-style-type: none"> • Disaster/emergency management core functions & competencies: Associates level (Beckering, 2004) • Disaster/emergency management core functions &

- competencies: Bachelor level (Hoover & Grant, 2004)
 - Disaster/emergency management core functions & competencies: Graduate level. (Brown, 2004)
 - Associates degree competency core (Teich, 2004)
- Emergency program manager: Knowledge, skills, & abilities (IAEM, 2004)
- FEMA Region V Training & Development Advisory Committee concept paper (Johnson, 2004)
- 2005 FEMA Higher Education Conference
- Top ten-competencies for professional emergency management (Blanchard, 2005)
- VHA-EMA emergency response & recovery competencies: Competency survey, analysis, & report (Barbera, Macintyre, Shaw, Seefried, Wsterman, & DeCosmos, 2005)
- Critical curriculum for emergency management leaders: Three essential themes (Woodbury, 2005)
- Professional competencies from the master's level emergency manager: Knowledge systems necessary for the emergency manager of the 21st century (Marks, 2005).
- Top 10 core competencies & courses as selected by practicing emergency managers (Spiewak, 2005)
- Educational needs survey report (Parle & Brown, 2005).
- Core competencies and core curriculum for Associate Degree & two-year certificate emergency management programs (FEMA, 2005a)
- Survey of baccalaureate level programs listed on the FEMA Higher Education site (FEMA, 2005b)
- From chaos to clarity: Educating emergency managers (O'Connor, 2005)
- 2006 FEMA Higher Education Conference
- Emergency management degree program instructional development processes: The importance of key curricular goals or aims (O'Connor, 2006)
- 2011 Curriculum outcomes (Jaffin, Berry, Carter, Cwiak, McEntire, Mosser,... Waugh, 2011)
- 2013 Redefining the emergency manager: A proposal for change (Stevens, 2013)
- 2014 Associate-level curriculum outcomes (Francis, Carter, Egsegian, Nash, Jaffin, & Gonzalez, 2014)
- Snap shot of the results from a survey gauging emergency management higher education community consensus on key points related to emergency management's disciplinary identity (Jensen, 2014)
-

In 2005, numerous documents were produced addressing curriculum and competencies as a result of a variety of EMI working groups. These include professional competencies as well as competencies for various degree levels

Table 9

Competencies Identified in the US – Part 1.

FRC, 1996	Marks, 2005	FEMA, 2005b
<ul style="list-style-type: none"> • Training & educational programs • Administration role of the EM • Emergency operations planning system • Federal, state, & local mitigation programs • Long & short term recovery • EM operations • Facilities & equipment used in CEM 	<ul style="list-style-type: none"> • Communications • Analytical & planning skills • Leadership (incident command/NIMS/NRP; consensus building; risk communication) • Government operations (administration; financial management) • Training & professional development • Hazard & risk assessment 	<ul style="list-style-type: none"> • Verbal communication • Written communication • Critical thinking • Leadership • Management • Financial management • Exercises • Professional development • GIS • IT/MIS • Develop computer, GIS, communication, leadership skills, etc. • Ethics • Human behaviour • Diversity • Legal • Reading • Mathematics/sciences • Emergency & disaster management • Terrorism • Logistics

Note: Adapted from “FRC Profile for Emergency Administration and Management for St. Petersburg Junior College,” by Florida Resource Center, 1996, “Professional Competencies for the Master’s Level Emergency Manager: Knowledge Systems Necessary for the Emergency Manager of the 21st Century,” by C. Marks, 2005, and “Survey of Baccalaureate Level Programs Listed on the FEMA Higher Education Site,” by Federal Emergency Management Agency, 2005b.

Table 10

Competencies Identified in the US – Part 2.

Blanchard, 2005	Spiewak, 2005	Woodbury, 2005
<ul style="list-style-type: none"> • Leadership & team-building • Management • Exercises • Networking & coordination • Social vulnerability reduction approach • Political, bureaucratic, & social contexts • Emergency management functions (risk assessment; planning; training; exercising; EOC operations, establishing interoperable communications; applying lessons learned) • Technical systems & standards (NIMS, NRP, NFPA 1600, CEM, GPs & GIS, communication systems, warning systems; software packages) • Comprehensive emergency management framework or philosophy • Integrated emergency management 	<ul style="list-style-type: none"> • Communications & warnings • Direction, control, & coordination • Exercise, evaluations, & corrective actions • Laws & authorities • Hazard identification, risk assessment, & impact analysis • GOOP/COG • Planning • Hazard mitigation • Resource management • Mutual aid 	<ul style="list-style-type: none"> • Sociological & psychological considerations • Hazard & threat science • Prevention & mitigation principles

Note: Adapted from “Top Ten Competencies for Professional Emergency Management,” by B. W. Blanchard, 2005, “Top 10 core Competencies and Courses as Selected by Practicing Emergency Managers,” by D. L. Spiewak, 2005, and “Critical Curriculum for Emergency Management Leaders: Three Essential Themes,” by G. Woodbury, 2005, *Journal of Emergency Management*, 3(2), 72-92.

Table 11

Competencies Identified in the US – Part 3.

Jaffin et al., 2011	Stevens, 2013	Jensen, 2014
<ul style="list-style-type: none"> • Effective communications • Leadership, management & decision making • Fiscal dimensions of EM • Personal, organizational, & professional development • Current & emerging technologies • Public, private & NGO organization networking • Human dimensions • Policy & legal dimensions • Public administration & community planning & development • Risk assessment process & methodology • Areas of emergency management responsibilities • EM standards, best practices, & comparative practices • Historical awareness • Principles of emergency management • Awareness & promotion of EM 	<ul style="list-style-type: none"> • Effective communicator • Verbal & written • Interpersonal skills • Listening • 360 communication • Critical thinking • Analysis • Reasoning • Empowers others • Facilitator • Coordinator • Negotiator • Decision-making • Adaptive management • Continual learner • Continuous improvement • Contributes to community • Social media • Coalition building • Ethics, integrity & accountability • Comfort in stressful environments • Self-care & management • Emotional, social, & cultural intelligence • Politically savvy • Situational & environmental awareness • Qualified & proficient in position • Proficiency in EM principles & key concepts 	<ul style="list-style-type: none"> • Verbal communication • Written communications • Interpersonal communications • Group communications • Analytical thinking • Problem solving • Decision making • Leadership • Network building & stakeholder engagement

-
- Understands & complies with NIMS & ICS Principles
 - Coordinates resources & capabilities from stakeholders
-

Note: “Curriculum Outcomes,” by R. D. Jaffin, et al., 2011, “Redefining the Emergency Manager: A Proposal for Change,” by D. Stevens, 2013, and “Snap Shot of the Results from a Survey Gauging Emergency Management Higher Education Community Consensus of Key Points Related to Emergency Management’s Disciplinary Identity,” by J. Jensen, 2014.

along with information concerning knowledge, skills, and abilities. Since that time, several additions have been offered (Blanchard, 2005; Hoover & Grant, 2004; Spiewak, 2005). Table 9, Table 10, and Table 11 offer a look at the identified attributes from a selection of these works.

The discussion has continued as part of the annual Higher Education Symposium, and in 2011, a list of Curriculum Outcomes was released that outlines undergraduate degree expectations (Cwiak, 2011; Jaffin et al., 2011). It was designed to serve as a baseline for undergraduate degree holders' knowledge, skills, and abilities. It is organized into four foundational tenets, eight core areas, and three supporting areas, each with a number of subparts Table 12 outlines each area in brief. As Cwiak's 2011 article provides more background than the original document, it will be primarily used for reference in later chapters.

Table 12
FEMA's Curriculum Outcomes.

Area	Outcome
Foundational Tenants	
	Historical awareness
	Effective communications
	Leadership, management & decision making
	Personal, organizational, & professional development
Core Areas	
	The "Principles of Emergency Management"
	Human dimensions
	Areas of emergency management responsibility
	Risk assessment process & methodology
	Fiscal dimensions of emergency management
	Awareness & promotion of emergency management
Supporting Areas	
	Public administration & community planning & development
	Public, private, & nongovernmental organization networking
	Emergency management standards, best practices, & comparative practices
	Current and emerging technologies

Note. Adapted from "Framing the Future: What Should emergency Management Graduates Know?" by C. Cwiak, 2011.

2.2.1.1.4. Other Efforts. It is no surprise that several of the items identified as attributes above also appeared in other literature in other forms. The United Nations' *Sendai Framework for Disaster Risk Reduction 2015-2030* calls for civic and professional education, data driven assessments, learning from best practices, and better informed decision-making (UNISDR, 2015). Coordination, hazard and risk reduction, and exercise participation surfaced as priority actions in the *Hyogo Framework for Action 2005-2015* (UNISDR, 2005a).

A 2005 assessment of the *Yokohama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation* identifies gaps consistent with several themes identified as attributes earlier. These include governance, risk identification and assessment, and knowledge management and education (UNISDR, 2005b). It is this education and specifically the education of Emergency Management leadership that is the focus of this work.

Australia has seen expanding changes in Emergency Management and responded with increased training and educational programs (Manock, 2001). The Australian Qualifications Framework (AQF) has been developed (AQF, 2013), similar to the NOS in the UK and the New Zealand Qualification Authority. Through the development of Generic Emergency Management Standards (GEMS) for universities, this initiative hopes to provide a framework for all emergency and disaster management education in the country (NEMP Application, 2013).

Seeing what has happened around the Pacific, a group of 22 island nations are currently discussing professional level competencies under the coordination of the Secretariat of the Pacific Community (SOPAC) (Reid, 2013).

Emergency Management in China largely grew out of the engineering field and academic programs continue to align along those lines. Of the four universities

offering degrees in 2011, Lixin et al. (2011) identifies that there is no standardization. They say

To reduce the loss from disasters, China is badly in need of emergency managers who can deal with all kinds of disasters. It needs to establish a credible, comprehensive, and challenging course of emergency management in higher education, but neither the China Department of Education nor the universities have agreed upon and articulated a common standard for collegiate education... (p. 5)

Lixin et al. go on to cite challenges in specialized textbooks, qualified teachers, and funding as hindrances in the furtherance of Emergency Management academic programs.

Table 13
Select Business Continuity Standards.

Developer	Contribution
ASIS International	Organizational resilience (SPC.1-2009) (2009)
British Standards Institution	Business continuity management (BS25999-1:2006) (2006)
Canadian Standards Association	Emergency management & business continuity program (Z1600-14) (2014)
Disaster Recovery Institute International	International professional practices (2016)
Financial Services Authority	Business continuity management practices guide (2006)
International Organization for Standardization	Business continuity management (22301:2012) (2012)
	Environmental management (14001:2015) (2015a)
	Information security (27001:2013) (2013)
	Information technology (20000) (2011a)
	Information technology – Security techniques – Guidelines for information & communication technology disaster recovery services (ISO/IEC 24762) (2008)
	Quality systems – Model for quality assurance in production, installation & servicing (9002:1994) (1994)
	Quality management systems – Fundamentals & vocabulary (9000:2015) (2015b)
	Risk management – Principles & guidelines (31000:2009) (2009)
	Societal security – Guideline for incident preparedness & operational continuity management (ISO/PAS 22399:2007) (2007)

Supply chain security management (9001:2015) (2015c)
Standards Australia/Standards New Zealand
Business continuity: Managing disruption-related risk
(5050:2010) (2010)
The Business Continuity Institute
Good practice guidelines (2013)

In business, risk management and BCM encounter a large number of standards as seen in Table 13. While not equivalent to academics attributes, these standards do impact the training and education of Emergency Managers.

Many of these standards are designed at the program or organizational level. The governmental sector also has seen the development of organizational standards. In 1995 the NFPA created the *Standard on Disaster/Emergency Management and Business Continuity/Continuity of Operations Programs* (NFPA 1600). NFPA1600 has served as the foundational starting point for the Emergency Management Accreditation Program (EMAP) which provides standards and accreditation for jurisdictions and organizations.

Humanitarian organizations and NGOs are increasingly subjected to public scrutiny (Fengler & Kharas, 2010; Polman, 2010). Individual organizations and consortiums have addressed this through the creation of their own sets of standards. Table 14 provides a sample of common standards used by these organizations in the delivery of disaster related programs and services.

Table 14
Select Humanitarian Standards.

Developer	Contribution
The Sphere Project	Humanitarian charter & minimum standards in humanitarian response (2004)
Emergency Capacity Building Project	Humanitarian competencies study (2006)
Global Humanitarian Platform	Principles of partnership (2007)
People in Aid	Behaviors which lead to effective performance in humanitarian

response: A review of the use & effectiveness of competency frameworks within the humanitarian sector (2007)

Humanitarian Accountability Partnership
The 2010 HAP standard in accountability & quality management (2010)

Groupe URD, HAP International, People in Aid, & The Shpere Project
Core humanitarian standard on quality & accountability (2014)

United Nations
United Nations competencies for the future (n.d.)
United Nations system competency map (2009)

2.2.1.1.5. Comparing Efforts. Of all the efforts to identify, standardize, and otherwise define and document the skills, knowledge, and procedures involved with Emergency Management, three are most relevant for higher education curriculum. One document from each of the UK, New Zealand, and the US stand out; the EPS's *Core Competencies Framework* (2011), MCDEM's *Civil Defence Emergency Management Competency Framework* (2011), and FEMA's *Curriculum Outcomes* (Cwiak, 2011). As the only three identified and actively used sets, they serve as points of comparison in later chapters. For now, the reader will find a side-by-side look at these three in *Table 15* with more details provided in *Appendix A*.

2.2.1.2. Professional Development. The education process is not something that begins and ends with higher education. Dewey (1938) promoted the continuation of learning through life. There is no reason to believe that Emergency Management education is any different. Britton (2004) finds that Japan relies less on higher education programs and more on on-the-job training or through professional development. Alexander (2003), Drabeck (2007), Green (2000), Hosseini and Izadkhah (2010), Moseley (2004), and Waugh and Sadiq (2011) specifically address the professional development role in continued education.

Table 15

Competencies and Outcomes from the UK, US and New Zealand.

EPS Core Competencies	FEMA Curriculum Outcomes	MCDEM Competencies
<ul style="list-style-type: none"> • Theories & concepts in EM • Anticipate & assess the risk of emergencies • Plan for emergencies • Plan for business continuity • Validate emergency or business continuity plans • Communicate with the community to enhance resilience • Manage response to emergencies • Manage the recovery from emergencies • Act effectively across your organization • Cooperate with other organizations • Debrief after an emergency, exercise or other activity • Manage computer generated data to support decision making 	<ul style="list-style-type: none"> • Historical awareness • Effective communication • Leadership, management, & decision making • Personal, organizational, & professional development • The Principles of Emergency Management • Human dimensions • Policy & legal dimensions • Areas of EM responsibilities • Risk assessment process & methodology • Fiscal dimensions of EM • Awareness of promotion of EM • EM standards, best practice, & comparative practices • Administrative & community planning & development • Public, private, & nongovernmental organizational networking • Current & emerging technologies 	<ul style="list-style-type: none"> • Relationships with key individuals, partner organizations & communities are established • Established relationships are actively managed & sustained • Information needs are identified & understood • Information systems are process & developed • Systems & processes are applied to collect & maintain information • Information is produced & disseminated • Information systems are processes & evaluated • Hazards & risks are recognized, understood, & communicated • Risk management is understood & applied • Risk management processes & outcomes are monitored, evaluated, & reviewed • Purposes & objectives of plans are agreed & understood • Plans are developed, written & maintained in accordance with the agreed purpose & objectives • Plans are coordinated & integrated across all levels & partners • Plans are evaluated, & updated • Assigned EOC roles are performed in accordance with existing plans & standard operating procedures • Emergencies are managed in accordance with the scale of activity, existing plans & standard operating procedures • Human resources are managed in order to achieve maximum effectiveness • Physical resources (facilities, vehicles, equipment, etc.) are sourced, operated & maintained in order to achieve maximum effectiveness

-
- Financial management processes are implemented, & funds allocated
 - Effective communication with partners & communities is achieved at all levels & across all functions of CDEM
 - CDEM public education/risk communication programs are developed to support community readiness & risk reduction
 - Public information messages are developed & disseminated during response & recovery
 - Media are engaged in public information management & public education
 - Capability development opportunities are actively sought & undertaken
 - Training & education programs are developed & delivered
 - CDEM exercises are developed & carried out
 - Capability development opportunities are provided to build a workforce of competent personnel
 - Organizational capability is monitored & evaluated
 - A CDEM vision is developed & articulated
 - An environment is created that empowers others to act & succeed
 - Leadership is demonstrated through strategic decision making
 - Leadership is demonstrated through professional conduct & effective self management

Note. Adapted from “The Emergency Planning Society Core Competences Framework” by the Emergency Planning Society, 2011., “Civil Defence Emergency Management Competency Framework by New Zealand Ministry of Civil Defence and Emergency Management, 2011, and “Framing the Future: What Should emergency Management Graduates Know?” by C. Cwiak, 2011.

Opportunities for professional development are found to vary between New Zealand and the US. The national organization MCDEM has a Capability Development Team that is responsible for the Competency Framework and the Role Maps. They also offer training and training resources to the sector. A review of their website (<http://www.civildefence.govt.nz/cdem-sector/capability-development/>) reveals 13 courses offered or under development. It should be noted that all 13 courses are response focused. Four private providers offer a limited number of trainings relevant to Emergency Management. In contrast, FEMA and other organizations associated with the National Domestic Preparedness Consortium offer hundreds of free courses for Emergency Managers and partner agencies (FEMA, 2015a, 2015b, 2015c).

Both the *EPS Core Competences Framework* and the *MCDEM Competency Framework* state that they are to serve as a guide for training and professional development. At this time, no research can be found describing this process or that addressing the validity of the competences. This is not to say that professional development is not an important aspect but rather that there is an opportunity for further work in this area.

2.2.2. Defining the Field of Emergency Management. How we frame, or choose to frame, Emergency Management or disasters or hazards (or any myriad of terms and concepts associated with the field), influences our perceptions.

2.2.2.1. Terminology. Many words are used in the vernacular to refer to the effects of a tsunami or earthquake or a volcanic eruption on a community. Prevalent amongst these is catastrophe, crisis, disaster, emergency, hazard, risk, or vulnerability. While no attempt is made to fully discuss the discrepancy surrounding these terms (see Blanchard, 2008a), it is worth mentioning them and some of the

views on them as this is really one of the first issues that define the field of Emergency Management and this study.

2.2.2.1.1. *Catastrophe.* According to Jay Carafano in a US House of Representatives Committee on Government Reform, a catastrophic disaster involved, tens-or-hundreds of thousands of lives are immediately at risk, State and local resources may well be exhausted from the onset, and government leaders unable to determine or communicate their priority needs. (Improving the national response, 2005)

Similarly, John Harrald takes a position from government saying,

Hurricane Rita caused a major disaster, Hurricane Katrina caused a catastrophe. The difference between the two was a matter of the scale of the natural phenomena, the size and vulnerability of the population at risk, the preparedness of the public and government, and the effectiveness of decision-making prior to and during the crisis stage of the event. (National emergency management, 2006)

A more socially constructed view is that a *catastrophe* is

any disaster that overwhelms the ability of state, local, and volunteer agencies to adequately provide victims with such life-sustaining mass care services as food, shelter, and medical assistance within the first 12 to 24 hours. (GAO, 1993)

Other views can be found in the business and insurance sector, but in general, they identify scale as a leading determinant along with the need to employ unique response strategies and how resources are mobilized (Little Hoover Commission, 2006).

2.2.2.1.2. *Crisis.* Much like catastrophe, a crisis may be viewed as “an incident or event that cannot be adequately handled within the normal scope of business operations” according to Jones (2000). Chong (2008) also takes a business-oriented perspective saying that crisis involves “negative incidents that can cause the demise of an organization.” A contrasting view is of a situation or incident in which the State, its people, military, or interest that “develops rapidly and creates a condition of such diplomatic, economic, or military importance that commitment of

military forces and resources is contemplated to achieve national objectives” (DoD, 2014). Nice and Grosse (2001) refer to crisis as focusing events “demanding public attention to a policy failure or problem” such as a war, economic depression, or health epidemic. From all of this, it would appear that a crisis includes an emergency, but what in fact is an emergency?

2.2.2.1.3. *Emergency.* According to Drabek (2004), emergencies are “an unexpected event which places life and/or property in danger and requires an immediate response through the use of routine community resources and procedures.” This may include an automobile accident or fire at a manufacturing plant where local and available resources are used to handle the situation. The simultaneous occurrence of multiple emergencies may lead to something that collectively depletes the availability of local resources or the capacity to manage any one of them effectively.

2.2.2.1.4. *Hazard.* Often when referring to disasters, one talks about a hurricane or cyclone, an earthquake, or a flood. These, in fact, are not disasters but rather hazards. Hazards are the precipitating events that act on a community or resources or system of human significance, that place people or resources or systems of human significance at risk (Hurtes, 2015).

Hazards come in all varieties of sizes, shapes, and origins that pose some risk. They serve as triggers for disasters. The United Nations International Strategy for Disaster Risk Reduction (UNISDR) defines a *hazard* as “a dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage” (2009, p. 9). *Natural hazards* are those *hazards* that occur as the result of natural processes or phenomenon (p. 20)

while *technological hazards* originate from “technological or industrial conditions, including accidents, dangerous procedures, infrastructure failures, or specific human activities” (p. 29). *Natural hazards* can be neatly organized into six groups and sub-groups like in Table 16 based on an effort by the Center for Research on the Epidemiology of Disasters (CRED) and the Munich Reinsurance Company to establish common definitions in their respective international statistical disaster databases. Other classifications of natural hazards are provided by the Integrated Research on Disaster Risk (2014), GLIDE (<http://www.glidenumber.net>), DesInventar (OSSO, 2009), and the Hazards and Vulnerability Research Institute (2014).

Technological hazards are far harder to group as their original cause may be difficult to discern. In general, *technological hazards* could involve transportation disruptions such as accidents or service interruptions on air, bus, train, or boat/ferries. They may include the release of chemical, biological or radiological agents into the air, water, soil, or food supply. There may be a fire or explosion on their own or in combination with one of these agents by accident or intentionally. A civil disturbance or terrorism may be a technological hazard as well as a failure of some sectors deemed to be critical such as energy, water, transportation, and communication. Table 17 identifies the current such sectors in both New Zealand and the US. They may include the release of chemical, biological or radiological agents into the air, water, soil, or food supply. There may be a fire or explosion on their own or in combination with one of these agents by accident or intentionally. A civil disturbance or terrorism may be a technological hazard as well as a failure of some sectors deemed to be critical such as energy, water, transportation, and

Table 16
Natural Hazards.

Biological	Climatological	Extra-terrestrial	Geophysical	Hydrological	Meteorological
<ul style="list-style-type: none"> • Epidemic -Viral Infectious Diseases -Bacterial Infectious Diseases -Parasitic Infectious Diseases -Fungal Infectious Diseases -Prion Infectious Diseases • Insect Infestation -Grasshopper/ Locust/Worms • Animal Stampede 	<ul style="list-style-type: none"> • Extreme Temperature -Heat Wave -Cold Wave - -Frost - -Extreme Winter Conditions - -Snow Pressure - -Icing - - Freezing Rain - - Debris Avalanche • Drought • Wildfire -Forest Fire -Land Fires (grass, scrub, bush, etc.) 	<ul style="list-style-type: none"> • Meteorite/Asteroid 	<ul style="list-style-type: none"> • Earthquake -Ground Shaking -Tsunami • Volcano • Mass Movement (dry) -Rockfall -Avalanche - -Snow Avalanche - -Debris Avalanche -Landslide - -Mudslide - -Lahar - -Debris Flow -Subsidence - -Sudden Subsidence - -Long-lasting Subsidence 	<ul style="list-style-type: none"> • Flood -General (river) Flood - Flash Flood - Storm Surge/ Coastal Flood • Mass Movement (wet) -Rockfall -Landslide - -Debris Flow -Avalanche - -Snow Avalanche - -Debris Avalanche -Subsidence - -Sudden Subsidence - -Long-lasting Subsidence 	<ul style="list-style-type: none"> • Storm -Tropical Storm -Extra-tropical Cyclone (winter storm) -Local/Convective Storm - -Thunderstorm/ Lightning - -Snowstorm/ Duststorm - -Generic (severe) Storm - -Tornado - -Orographic Storm (strong winds)

Note: Adapted from "Disaster Category Classification and Peril Terminology for Operational Purposes," by R. Below, A. Wirtz, and D Guha-Sapir, 2009, Working Paper 264 of the Common accord Center for Research on the Epidemiology of Disasters (CRED) and Munich Reinsurance Company (Munich RE).

communication. Table 17 identifies the current such sectors in both New Zealand and the US.

Table 17
Critical Sectors.

US Critical Infrastructure	New Zealand Lifeline Utilities
Chemical Sector	Radio & Television Station
Commercial Facilities Sector	Airport Operators
Communications Sector	Port Operators
Critical Manufacturing Sector	Natural gas & manufactured gas
Dams Sector	producers, suppliers, or
Defense Industrial Base Sector	distributors
Emergency Services Sector	Electricity Distributors
Energy Sector	Water Distributors
Financial Services Sector	Waste Water & Sewerage Network
Food and Agriculture Sector	Operators
Government Facilities Sector	Telecommunications Network
Healthcare & Public Health Sector	Operators
Information Technology Sector	Road Network Operators
Nuclear Reactors, Materials, & Waste Sector	Petroleum producers, processors, or
	distributors
Transportation Systems Sector	Rail Network Operators
Water & Wastewater Systems Sector	

Note. U. S. Critical Infrastructure list adapted from Presidential Policy Directive – Critical Infrastructure Security and Resilience No. 21, (2013). New Zealand Lifeline Utilities adapted from Civil Defence Emergency Management Act 2002 Schedule 1, (2002).

While there has been no real consensus on identifying and linking *technological hazards* as they relate to *disasters*, I will further discuss them in context of where they fit in the field of Emergency Management later in this chapter.

2.2.2.1.5. Risk. Many concepts of risk exist and no universal definition is available (Lewis & Darken, 2005). Wisner, Blaikie, Cannon and Davis (1999) suggest that there is a continuum of interpretations. At one end of the spectrum, risk is an actuarial calculation of probability and loss over time (Hammer, 1972). The other end of the spectrum Wisner et al., (1999) describe as constructionist where social context define a perspective where nothing is, in of itself at risk. Somewhere in the middle, Kotze (1999) calls for the inclusion of social dimensions when considering risk.

ISO 31000:2009 and others (Ansell & Wharton, 1992; DRJ, 2014) provide a more ambiguous interpretation. Risk is used throughout this work in the middle of the spectrum described by Wisner et al., and is viewed as “the combination of the probability of an event and its negative consequences” (UNISDR, 2009) where consequences are inclusive of a wide range of social and other dimensions.

2.2.2.1.6. *Vulnerability.* If risk is viewed as the congruence of probability and consequences of a hazard, then vulnerability refers to the individual, community, or situational characteristics susceptible to that hazard. Wisner et al., (1999) describe vulnerability as “the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard” (p. 11). UNISDR (2009) succinctly defines vulnerability as the “characteristics and circumstances of a community, system, or asset that make it susceptible to the damaging effects of a hazard.”

2.2.2.1.7. *Disaster.* The word disaster can be traced back to its induction in the English lexicon from the French *desastre* (Quarantelli, 1987). Originated from what is believed to be the Latin *dis* (away) and *astrum* (stars), the word roughly translates to “ill-starred” (Ripley, 2009) or “formed on a planet” (Quarantelli, 1987). Inconsistencies exist in today’s nomenclature where the current National Civil Defence Emergency Management Plan (2005) of New Zealand, the National Response Framework (2013) in the US, and the Union Civil Protection Mechanism (2013) all refer to “natural disasters” in several instances. Many alliterations, destinations, and debates continue today about what constitutes a disaster, what indicators should be considered, and from which paradigm to view them. Stallings suggests, “whether a hazard exists or a disaster has occurred is as much a social and political question as it is a scientific one” (as cited in Birkland, 2006). The current trend is to view disasters as socially

constructed (Dynes, 1993) events where hazards and risk collide. Times magazine writer Amanda Ripley, in her book *The Unthinkable: Who Survives When Disaster Strikes-and Why*, summarizes the issue well saying “we flirt shamelessly with risk today, constructing city skylines in hurricane alleys and neighborhoods on top of fault lines. Largely because of where we live, disasters have become more frequent and more expensive” (2009).

It would seem that the concept of a disaster is relatively well understood in general terms. Drabek (2004) suggests that it is “an event in which a community undergoes severe danger and incurs, or is threatened to incur, such losses to persons and/or property that the resources available within the community are severely taxed.” This idea of community is prominent in Drabek’s definition suggesting that a disaster is something that affects a geographical area and the people in it. Carroll (2001) takes a similar perspective suggesting that disasters affect a local area where the governing authorities have insufficient resources to effectively respond. Erikson (1976) offers that disasters have a “distinct beginning and a distinct end” with “sharp and furious eruption of some kind that splinters the silence.” Alaxander (1993) supports this notion saying, in part, that disasters are sudden or instantaneous events. This neglects to account for some geophysical and hydrological (subsidence), climatological (heat wave, cold wave, and drought), biological (epidemics and insect infestations) hazards, as seen in Table 16, that do not have well defined inception and cessation points.

Two themes do prevail through much of the debates around the use and defining of the term *disaster*. The first is that *disaster* definitions largely agree on two basic groupings of *hazards*: natural and technological or man-made. Secondly, it is now generally agreed that *disasters* are largely social issues directly affecting people or indirectly affecting people by negatively impacting on those things that people value.

Having covered the issue of hazards previously, the second theme will be addressed. In the larger *disaster* discussion, most tend to agree that disasters involve a social component. Bolin and Stanford (1998) describe *disasters* as fundamentally social phenomena; they involve the intersection of the physical processes of a hazard agent with the local characteristics of everyday life in a place and larger social and economic forces that structure that realm (p. 27).

Dynes (1993) takes it a step further saying that a “disaster is a social, rather than a ‘natural,’ happening” (p. 175). Oliver-Smith (1998) proposes a concept that *disasters* are socially constructed events saying “disasters signal the failure of a society to adapt successfully to certain features of its natural and socially constructed environment in a sustainable fashion” (p. 303).

In addition to the social context of *disasters*, Oliver-Smith brings out another dynamic which is environmental. Pearce (2000) picks up on this and adds an economic and political dimension defining *disasters* as

a non-routine event that exceeds the capacity of the affected area to respond to it in such a way as to save lives; to preserve property; and to maintain the social, ecological, economic, and political stability of the affected region. (p. 22)

The questions of which dimensions of society are impacted or overwhelmed by a *disaster* is one of great importance; regrettably, it is also outside the scope of this study.

What is obvious in the current literature is that there is great debate over the exact dimensions of a *disaster*. While this may have a great influence of how individuals perceive the term and approach the subsequent field of study, we must come to some common understanding in order to proceed.

For this study, the simple and effective definition of the Center for Research on the Epidemiology of Disaster (CRED) offers that an emergency is a “sudden and usually unforeseen event that calls for immediate measures to minimize its adverse

consequences” (<http://www.emdat.be/glossary/9>). While a disaster is a larger and more complex occurrence defined by the United Nations International Strategy for Disaster Reduction (ISDR) as

[a] serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources. (UNISDR, 2009, p. 9)

With an understanding that an emergency refers to immediate negative consequences and a disaster involves a wider community where external resources are required, this research focuses on the broader concept of disasters. Central to a community or societies involvement before, during, and after a disaster is the field of Emergency Management.

A perspective does provide a lens and greatly determines the answers we seek by coloring the questions we ask. Roberts (2012) applies Maslow’s maxim of “when your only tool is a hammer, every problem begins to look like a nail” to these situations (p. 15). As this issue is paramount to the reader’s understanding from whence this research is based, it warrants some exploration here. The section that follows is intended to provide some historical context and outline four prominent tracks in the field.

2.2.2.2. *Field and Tracks.* A 2010 *U. S. News and World Report* article describes Emergency Management as one of the top 50 jobs of 2011 with “strong growth” over the next 10 years (Webster, 2010). Preparing for, responding to, and recovering from a disaster is not the result of just one person. It requires the expertise of a vast work force touching on many, if not most, aspects of an affected area. The discussion that follows makes no attempt to catalog each of these disciplines nor provides commentary on their contributions. It is recognized that the work before,

during, and after a disaster would not be possible without this diverse work force. This study focuses on the role of the Emergency Manager with program management responsibilities within a jurisdiction or organization. Again, nothing would be accomplished without the contributions from allied professionals, those engineers, medical providers, scientists, police and firefighters, and the like who take on specific roles during a disaster. The coordinating role of the Emergency Manager is henceforth the focus.

Research literature has failed to describe the job (Hite, 2003) of the Emergency Manager, yet an attempt is warranted in an effort to identify tracks in which practitioners may find themselves. Understanding where these positions are located helps to develop a curriculum outline encompassing of the diverse job market.

In New Zealand, there were reportedly 135 Emergency Management jobs in 2012 with an expected increase of 8.9% over the following two years. Annual salaries ranged between \$35,000 to \$62,000 NZD (\$30,000-53,000 USD) for employees with less than three years experience while more experience staff earned \$62,000 to \$85,000 NZD (\$53,000-72,750 USD) (<http://www.careers.govt.nz>). The US reported it had 9900 jobs in the same year with an expected 8% increase over the next 10 years. The US median annual salary for 2012 was \$59,770 USD (\$69,850 NZD).

As one of the few surveys of the field, International Association of Emergency Managers (IAEM) found the field to be largely male (76%), mid-career professionals (age 51-60, 64%) with 60% having less than five years of experience in their current position. Not surprisingly, experience ranked the highest (88%) amongst respondents as the important qualification for the future of their profession. Most respondents reported working as part of a larger department that has other responsibilities than solely Emergency Management (56%) and work full-time (74%). They are employed by

a variety of national, regional, or local government agencies (71%), private sector (23%), or non-governmental organizations (NGO) (5%) (IAEM, 2005).

As to the “work” of Emergency Management, that is less defined in the current literature. One of the early publications on the matter surprisingly did not originate from the Emergency Management community but rather was driven by local government administrators. The International City/County Management Association (ICMA) identified that there are four phases in which the Emergency Management field takes a key or leading role. They are (a) mitigation activities designed to lessen the impact of a hazard, (b) disaster preparedness, (c) disaster response, and (d) recovery efforts (Waugh & Tierney, 2007, p. 40). Homeland Security in the US has identified prevention as a fifth activity, which is also seen in the Emergency Management Accreditation Program (EMAP). EMAP works with Emergency Management programs around the world to provide consensus standards and accreditation for programs. In so doing, they focus on an Emergency Management program encompassing of all coordinating agencies. They define a program as

A jurisdiction-wide system that provides management and coordination of prevention, mitigation, preparedness, response and recovery activities for all hazards. The system encompasses all organizations, agencies, departments, and individuals having responsibility for these activities. (EMAP, 2010, p. 1)

The Principles of Emergency Management is more of a consensus document than a set of standards. It defines Emergency Management, provides a vision, mission, and eight guiding principles. In this, Emergency Management “is the managerial function charged with creating the framework within which communities reduce vulnerability to hazards and cope with disasters” (FEAM, 2007, p. 4).

It is worth noting that the labels of Emergency Management and Emergency Manager are poor descriptors. They are more closely aligned with the concepts

presented in reference to disaster than emergencies as defined, and hence could more accurately be referred to as Disaster Management and Disaster Managers. The concept of management and manager too, are not accurate representations of the work performed and are poor labels. Perhaps Disaster Coordination and Disaster Coordinator would be more accurate. Perhaps Emergency Measures Coordinator. The United Nations Office for Disaster Risk Reduction (UNISDR) offers that the concept of Emergency Management is the “organization and management of resources and responsibilities for addressing all aspects of emergencies, in particular preparedness, response and initial recovery steps” (UNISDR, 2009, p. 13). This is as good as any to adopt for the continued discussion. Now let’s look at four specific areas in which we see Emergency Managers working.

2.2.2.2.1. *Business Track.* While the ICMA, EMAP, and the Principles of Emergency Management explicitly or implicitly focus their attention on the role of government in the field of Emergency Management, the 2005 IAEM study discussed earlier shows that 28% of respondents represented the private and NGO sectors. Combined with the knowledge that in 2003 roughly 80% of the critical infrastructure in the US was controlled by the private sector (DHS, 2003, p. 1), it is worth then considering the roles of these sectors in the Emergency Management field.

Within the private sector, *business continuity management* (BCM) is a common approach to minimizing the losses due to disruptions. Defining BCM, like that of disaster, is somewhat contested in the literature (see Blanchard, 2008a); however, the Disaster Recovery Institute (DRI) and the Disaster Recovery Journal (DRJ) agree that BCM is a

holistic management process that identifies potential impacts that threaten an organization and provides a framework for building resilience with the capability for an effective response that safeguards the interests of its key

stakeholders, reputation, brand and value creating activities. (DRI, 2008, p. 3; DRJ, 2011, p. 3)

More and more businesses are seeing the value in expanding the range of emergency and disaster related activities they are involved with. These may include risk management, safety and health, crisis management, information technology, and disaster response. BCM is used in this study to represent Emergency Managers working in the business sector. However, recent studies globally and in the UK show that BCM is utilized in the government and NGO sectors as well (BCI, 2010; CMI, 2012).

2.2.2.2.2. *Government Track.* Similar to the role Emergency Managers play in business, there is a subfield of the governmental track that is focused on the internal operations of the government itself. This subfield really has two differing branches with one focused on operations and the other on governance. Similar to BCM in the government sector, Continuity of Operations (COOP) focuses on the continued provision of governmental services. The second subfield identified as Continuity of Government (COG) works to ensure the political leadership continues (Blanchard, 2008a). While COOP and COG are distinct in their foci, this study recognizes the ICMA's position that they play the role of the Emergency Manager and in such, will be included in further references to the track of governmental Emergency Management (Waugh & Tierney, 2007).

Careers New Zealand describes the role of an Emergency Manager or civil defence officer as someone who "provide[s] communities with co-ordinated response and recovery plans for emergencies such as floods, earthquakes and major transportation incidents" (CareersNZ, 2016). They go on to say that typical job duties may include planning activities, public education programs, hazards research, exercise development, developing procedures, writing reports, talking with the media, and interacting with

other emergency service organizations like fire and police. Similarly, the US Department of Labor Bureau of Labor Statistics describes the role of an Emergency Manager as someone who “prepares plans and procedures for responding to natural disasters or other emergencies” and they “lead the response during and after emergencies, often in coordination with fire and law enforcement officials, elected officials, nonprofit organizations, and government agencies” (BLS, 2016). Emergency Managers in the governmental sector may find work in dedicated local, regional, or national offices in coordinating a jurisdiction wide program or in other governmental departments focusing on specific agency responsibilities.

2.2.2.2.3. *Nongovernmental Track.* Another group of distinction provides assessments, rescue, medical, sanitation, housing, feeding, counseling, spiritual services, reconstruction, logistical, child care, case management, donations management, funeral services, debris removal, and safety services (Homeland Security Institute, 2006; Sutton, 2003) before, during, and long after disasters. Many have been doing so long before there was any governmental structure to do so (Rubin, 2007). Collectively known as nongovernmental organizations (NGO), these religious, civic, residential, international, and humanitarian organizations often function in coordination with governments to meet the needs of people. NGOs’ assistance around the world may vary to address the unmet needs in communities; this may at times be in the lack of support of or neglect of governments (Coppola, 2011). With what appears to be an ever-increasing number of disasters and an increase in the amount of destruction caused, the need of NGO’s involvement is not waning (Homeland Security Institute, 2006; McCabe et al., 2008). While providing mitigation, preparedness, response, and recovery efforts in communities, sometimes as the only agency, NGOs are a growing recruiter of Emergency Managers.

2.2.2.2.4. *Homeland Security Track.* The final distinctive group of Emergency Managers to address here falls under the general heading of homeland security. Like Emergency Management, homeland security is multi-faceted, rapidly evolving, and hard to define. Larson and Peters (2000) identify five missions that frame this track as: “domestic preparedness and civil support in case of attacks on civilians, continuity of government, continuity of military operations, border and coastal defense, and national missile defense.”

Private, business, government, and a limited number of NGOs offer a wide range of employment opportunities in the homeland security track. Because of the defense perspective, homeland security is not explicitly delineated in this study as a track while some study participants may include some activities, such as acts of terrorism, as part of their regular and ongoing comprehensive all-hazards programs.

2.3. Conclusion

A hazard assessment can serve many purposes from identifying historical events to defining the relevant issues to be considered. In this chapter, education has been shown to provide a multitude of purposes as well; for instance, it has been used to ensure both, obedience to the State (Graves, 1919) and individualism (Boyd, 1954). It has been used to promote citizenship (Boulton, 1966) and civic engagement (Gutierrez, 2011). Education is largely seen as a benefit for future endeavors (Boulton, 1966) and not simply for the acquisition of knowledge.

Knowledge, in and of itself, is not the point of education (Bass, 1996). Students are not vessels to be filled (Freire, 1970/2005), but rather individualistic in their learning styles and interest (Gutierrez, 2011). Seen as “slaughterhouses of the mind” (as cited in Bloom, 1975, p. 2), schools have long struggled with what to teach (Dewey, 1938),

leading to all the more reason to encourage a system in which a student's experiences, interest, and readiness should guide the process of learning (Rousseau, 1762/2002).

The purpose of education is to promote critical thinking (Dewey, 1938) and the drilling of facts limits creativity (Roberts, 2012). Experiencing the world and reflecting on those experiences is the foundation of Dewey's experiential education.

In Emergency Management education, there is a focus on what knowledge should be acquired (Blanchard, 2005; EPS, 2011; MCDEM, 2011), what Biggs and Tang (2011) refer to as a Level 1 teaching and learning activity. Chapter 5 and Chapter 6 try to move into Level 2 and Level 3 concepts, but first the methodology and methods used in this study are described.

3. Plan: Methodology

The smart way to keep people passive and obedient is to strictly limit the spectrum of acceptable opinion, but allow lively debate within that spectrum.

Noam Chomsky¹²

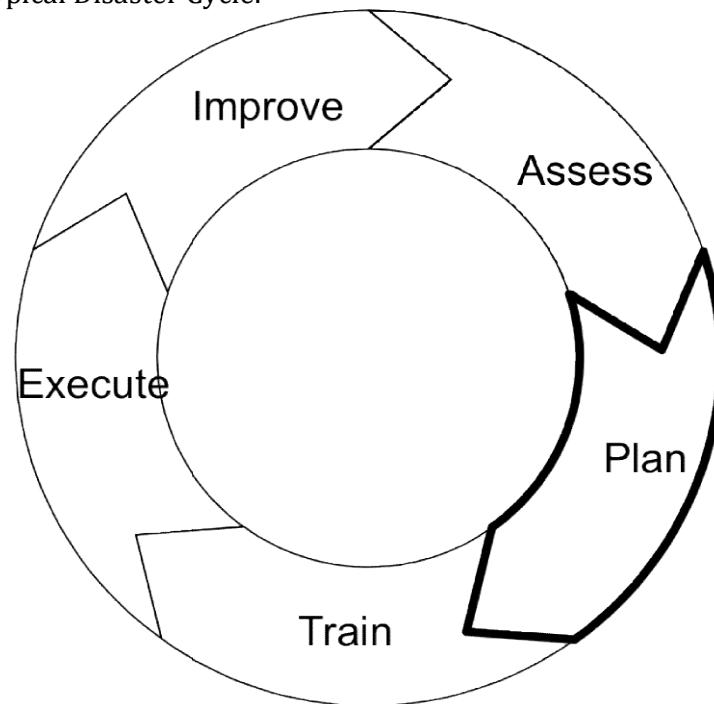
3.1. Approach

Emergency response plans provide the framework for the nature and type of work, as well as defining the roles of those involved. Plans are written before the disaster and entail a level of hyperbole. They are often a guide and may not be accurate representations of what actually takes place. The study of human behavior and social interaction is similar in that they are, oftentimes, incongruent with laboratory settings and “can only be achieved by first-hand contact with it, not by inferences from what people do in artificial settings” (Hammersley, 1990, p 7). Hence this study focuses on observational data collected in the field using key professionals as participants. It is concerned with the actions and knowledge of these practitioners and less with their opinions or the opinions of academics, like many of the previous works discussed in Chapter 2.

This chapter addresses the approach used to investigate the professional attributes, academic assessments, and curriculum in Emergency Management education. Much like the dynamics and ever-changing field of Emergency Management, the techniques and methods utilized throughout this study have evolved as information was collected and interpreted under the tutelage of naturalistic inquiry principles. This is represented in the various phases and initiatives described hence.

¹² A quote from *For Reasons of State* by N. Chomsky, 1973. New York, NY: Pantheon Books.

Figure 9
Planning in a Typical Disaster Cycle.



3.1.1. Tradition of Inquiry. As with any research, a set of assumptions exists that guide the study and in an effort of full disclosure, the following underpin this work:

- Emergency Management degree programs lack the published research to determine if current content is meeting the needs of the profession.
- Identification of professional attributes will serve as a guide in the development and implementation of higher education assessments.
- More relevant and effective assessments can be scaffolded in the curriculum.

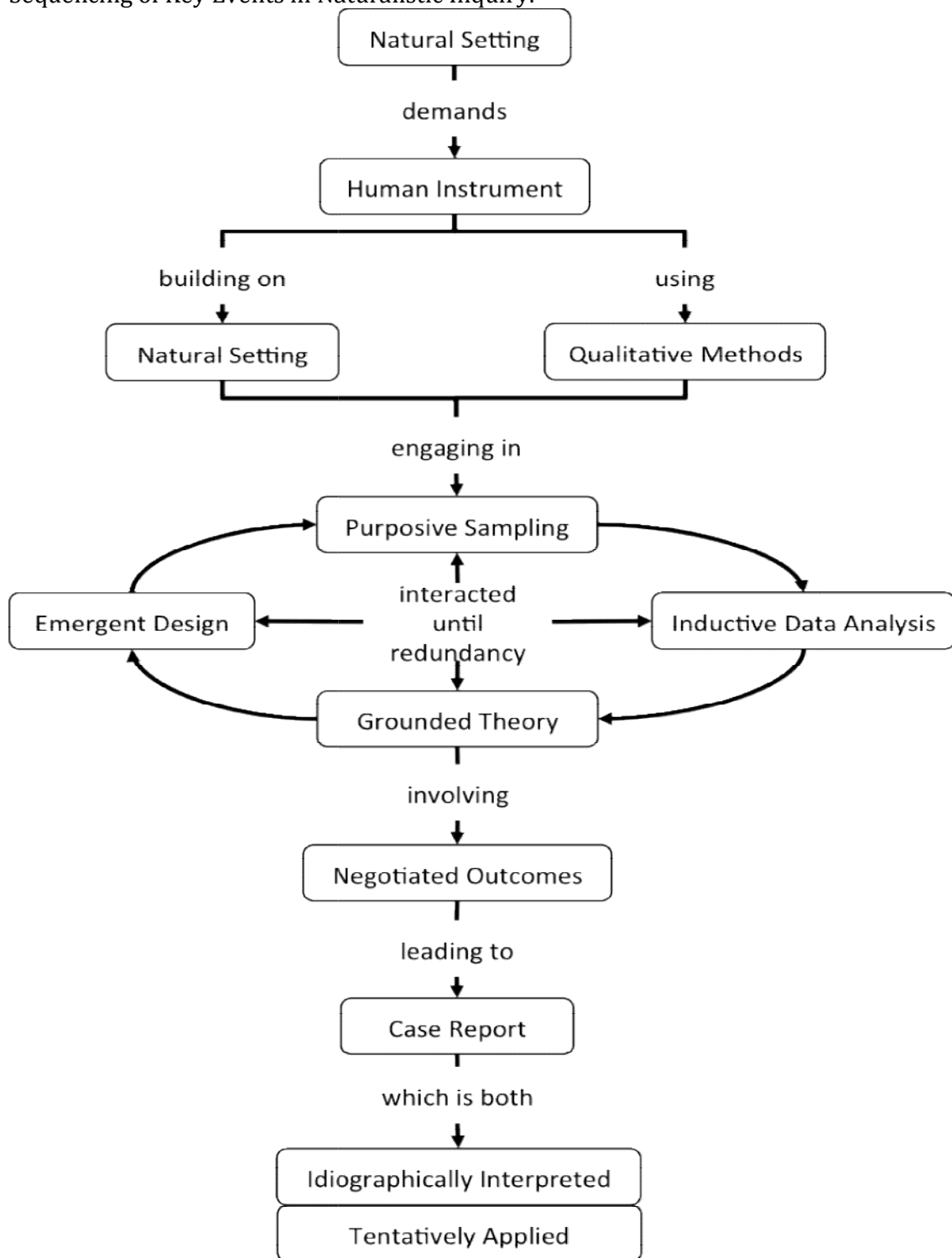
Despite the wide availability of Emergency Management degree programs worldwide, little published research is available on what is taught and even less addresses the commonality of these programs. Polytechnic University of Valencia in Spain focuses on planning (Jordá, 2011) while Southern Cross University in Australia focuses on human services and community development (Manock, 2001). Other programs look at what they call an integrated approach like Kobe University in Japan (Tanaka, 2013) while Woodhury (2005) suggests three themes of (a) hazard and threat science, (b) sociological and psychological considerations, and (c) prevention and

mitigation principles. Symbiosis International University in India takes a different approach and promotes disaster training for all university students (Deshponde, 2011). With debate still ripe on what should be taught in Emergency Management programs, this study uses largely qualitative methods to identify the professional attributes, which serve as a foundation for discussing student assessments and a degree curriculum.

Professional attributes dominate the largest portion of the study and are represented in Phase I. Observations and interviews were utilized to delve into human behavior, which Green (2002) finds cannot easily be quantified. Due in part to the descriptive nature of the attributes and the complex environments in which participants work, a responsive methodology was utilized.

3.1.1.1. *Naturalistic Inquiry.* Much like the explicit techniques for developing a response plan, this research uses defined strategies. Also known as constructivist inquiry (Green, 2002), naturalistic inquiry is a design strategy of social research focused on understanding and documenting the day-to-day reality of participants over time as part of complex, dynamic, and changing systems (Patton, 2002). It seeks deep understanding by addressing both the why and the what. It is culturally driven research that explains social events and processes as part of a given setting (Green, 2002). Reflection on, interpretation of, and understanding of the contextual nature of events is key to understanding meaning from the participants' point of view (Dey, 1993; Green, 2002). In addition to a contextual focus, naturalistic inquiry's other key elements include emergent designs, the use of humans as instruments, qualitative methodologies, purposive sampling, inductive data analysis, negotiated outcomes, and idiographic interpretations (Lincoln & Guba, 1985).

Figure 10
Sequencing of Key Events in Naturalistic Inquiry.



Note. Adapted from "Naturalistic Inquiry," by Y. S. Lincoln and E. G. Guba, 1985, p. 188.

Figure 10 provides the sequencing of events along with several key points of the naturalistic inquiry process. As the context between different phases of this study vary, the meaning and application of the naturalistic inquiry characteristics are addressed in the following sections. The elements of naturalistic inquiry are addressed as an underlying design approach and reflected in each research phase.

3.2. Design of the Study

This study investigates the attributes, the assessment of those attributes, and the placement of them in a multi-year curriculum from a multi-national, multi-track perspective. Attributes, assessments, and curriculum provide the three phases of the study. In addition, three career tracks of Emergency Management have been identified and encompass the government, business, and nonprofit sectors.

Figure 11
Study Elements, Data Collection Methods, and Outputs.

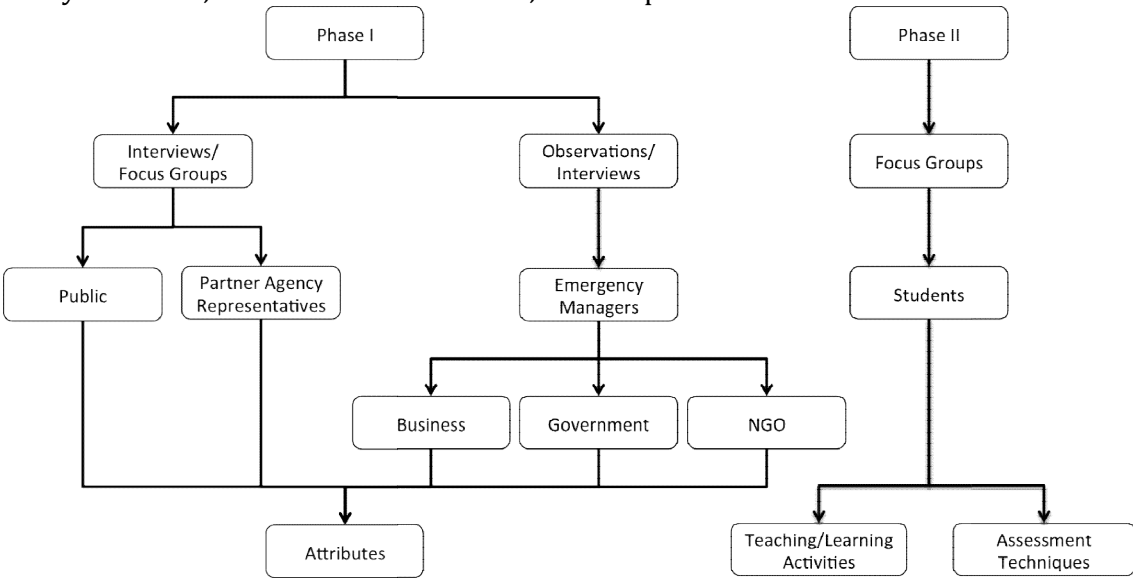


Figure 11 outlines the first two phases of the study and provides a reference of data collection techniques, participants, and outputs. These phases are conducted in New Zealand and North America because the attribute literature discussed previously provides for a rich discussion in subsequent chapters. It should be noted that the UK is

not included as a study site solely due to financial constraints. Phase I identifies the attributes from observations and interviews. Phase II represents a pilot study of attributes being assessed in a course. Table 18 provides an overview of the two phases and the number of participants in each stratified group. As each phase of this research builds on previous phases and is drastically different in their design and execution, they are described separately here and reported separately in Chapter 4 and Chapter 5.

Table 18
Study Elements and Data Collection Methods.

Study Elements	Data Collection	n
Phase I: Attributes		
Initiative 1: Emergency Managers	Observations & interviews	
Government track		21
Business track		11
Nonprofit track		2
Initiative 2: Partner agencies	Interviews	10
Initiative 3: Public	Interviews & focus groups	67
Phase II: Assessments	Focus groups	48

3.2.1. Phase I: Attributes. After defining the scope of a disaster exercise, designers must then identify what defines success for the exercise. Written as objectives, these statements provide the foundation for the construction and evaluation of the exercise. Like exercise objectives, the attributes identified in this research provide a foundation for the subsequent phases. It is critical to understand what makes a good practitioner and their sets of attributes before proceeding to any other points. What is it that Emergency Managers know and what should students study?

3.2.1.1. Researcher as Human Instrument. Guba and Lincoln (1981) identify that the human is uniquely qualified as a research instrument based on their (a) responsiveness, (b) adaptability, (c) tacit knowledge, (d) ability to clarify and summarize, and (e) ability to probe atypical responses, among other characteristics. They describe responsiveness as the ability to sense environmental, personal, and

interpersonal factors and respond to them. The human instrument is uniquely capable of collecting all this information and simultaneously processing it for meaning and context in order to provide context to the observed interactions. This may include tone and inflection in conversations and demeanor in interactions.

Adaptability in naturalistic inquiry, Guba and Lincoln explain, accounts for the researcher's ability to collect information on multiple factors as they emerge. The human instrument is infinitely adaptable to unforeseen developments. This type of approach is well suited for emerging knowledge areas or when providing novel insights (Glaser & Strauss, 1967). In this study, the researcher adapts to the input of data, shifting the focus between situational and time-bound salient factors.

Knowledge is more than facts, according to Guba and Lincoln. One must account for tacit knowledge "to the realm of the felt, to the silent sympathies, to the unconscious wishes..." (1981, p. 135). Polanyi describes tacit knowledge, saying "we can know more than we can tell" (1967, p. 4). That is to say that human instruments account for knowledge that is just known and not described. In this study, the researcher embeds himself in every aspect of the observed participants' work life for several hours and often several days. In this way, a relationship is built that helps inform tacit exchanges.

Human instruments have the ability to interact with their subject in two important ways. The first is by clarifying and summarizing, according to Guba and Lincoln. This ability allows the human instrument to confirm his understanding or interpretation of a situation. In this study, the researcher regularly uses summation and confirmation strategies to enrich understanding.

The second interaction is by probing. The human instrument is able to investigate interesting, atypical, or idiosyncratic responses more deeply than a set of standardized questions (Guba & Lincoln, 1981). This may be compared to an investigative journalist

who pursues questions based on all available information and the responses received as opposed to standardized questions during a job interview. The investigative journalist will glean more in-depth information. In this study, the researcher uses probing questions to better interpret comments, interactions, and other observed actions.

3.2.1.2. Initiative 1: Emergency Manager. Phase I of the study addresses attributes of Emergency Management practitioners by going to the source. This is described as Initiative 1 and includes observations and interviews. A description of this process and an introduction to each of the participants is provided in the following sections.

3.2.1.2.1. Natural Setting. Naturalistic inquiry is predicated on several underlying paradigms according to Lincoln and Guba (1985). One of these is that a situation must be viewed in context and in its entirety. Realities are contextual and cannot be replicated in a laboratory, nor can they be broken down into individualized components for analysis. They must be viewed in context of which they take place to determine if they have meaning in another context. “The whole is more than the sum of the parts” (p. 39).

Table 19
Labeling of Geographic Responsibilities.

		Local	Sub-national	National	International
Government	NZ	Territorial Authority District Council City	Region	Country	
	Canada	City			
	US	City	County State		
Business				Country	>1 Country
NGO			>1 County		

Note. Some levels not described due to a lack of participants in that category.

Participants worked at a range of local to international levels. As there is no direct relationship between these geographical levels of responsibility, a set of general terms

are identified in Table 19. Local refers to NZ Territorial Authorities, District Councils and cities, and cities in the US and Canada. Sub-national refers to NZ regions, US counties and states, and NGOs operating in multiple political jurisdictions. National refers to organizations with responsibility across an entire country. International refers to organizations with responsibility to provide services in more than one country.

Observations in this study were conducted at the Emergency Manager's normal work locations. This included office buildings, fire stations, EOC, hotels, and anywhere those Emergency Managers went during the day. Participants were asked not to alter their schedule to accommodate the researcher, which led to many long days observing participants work at a computer, many out-of-office meetings, more than a few long road trips, and one overnight stay. Emergency Managers were observed in their normal work environment doing daily mundane tasks. Interviews were conducted in these same locations.

3.2.1.2.2. *Participants and Purposive Sample.* A stratified purposeful intensity sample was selected based on track and country. After talking with Emergency Managers, a total of 34 participants were peer recommended as "exceptional" practitioners and included in the study from the three various tracks.

Selection of "exceptional" practitioners varied by location. In North America, the preponderance of individuals were identified at the 2012 International Association of Emergency Manager's conference based on peer recommendations. The New Zealand context proved to be far more difficult to identify participants. After seeking recommendations from a number of local and sub-national practitioners with reluctant and conflicting results, a regional concept began to emerge. Appearing in the Australian and New Zealand literature, the Tall Poppy Syndrome (TPS) refers to the tendency of

individuals to downplay achievement. It may include a detainment of individuals who stand out and a desire to “cut them down to size” (Macintyre, 2001).

Many New Zealand study participants were identified from various sources with a high degree of inconsistency. Some individuals were described as very competent while others described the same person as unworthy of such accolades. With such disagreement on who represented an exceptional practitioner, the decision was made to move forward with some of the names provided. Participants selected received the most nominations. Of all the participants studied, the most anomalies in the results occurred in this sample.

Table 20
Emergency Management Participants.

Track	New Zealand	US	Canada	Track Total
Government	11	9	1	21
Business	3	8		11
Nongovernmental		2		2
Country Total	14	19	1	34

Table **20** provides a breakdown of the number of participants from each country and by each track. A list of all Emergency Management participants is provided in Appendix B.

3.2.1.2.2.1. Government Track. Emergency Management

participants working in government operate at the local and sub-national level. They provide an array of services and are engaged in a range of phases of Emergency Management activities that include business continuity. Job responsibilities may include natural as well as technological hazards, with the bulk of their efforts focused on a comprehensive program. Study participants in this track were selected based on their full-time employment status in the field with no regard to their geographic area of responsibilities (local, sub-national, national, or international).

Each of the participants identified in Table 21 freely consented to participate in this study as approved by the University of Canterbury Human Ethics Committee (see Appendix C. For privacy reasons, participants were given the option to have their name, title, and organization identified. Some pseudonyms have been used and where requested, identifying characteristics have been omitted under consultation with each participant. Chapter 4 relies heavily on the participation of each of the Emergency Managers. The reader will benefit from a quick introduction to each of the participants here.

Table 21
Government Participants.

New Zealand	US	Canada
Lamorna Cooper	Jim Buchanan	Alain Normand
Neil Cruickshank	Perry Cogburn	
Lee Hazelwood	Chandra Fox	
Sandra Minser	Barb Graff	
Dan Neely	Lyn Gross	
Bruce Pepperell	Mark Mall	
Chris Raine	Jason Shoe	
Alma Reed	Michael Stever	
Craig Sinclair	Steven Weber	
Rian van Schalkwyk		
Peter Walker		

Lamorna Cooper is the Emergency Services Officer at the Timaru District Council in New Zealand. She is the sole Emergency Manager in the jurisdiction of 43,929 (Statistics New Zealand, 2013) people and relies on 300 volunteers to help implement different aspects of the program. She holds a university degree in geology and shares office space with the Rural Fire Officer. Observations and an interview were conducted over five days in April and May 2013. At the time, she had been in her position for four years.

Neil Cruickshank is the Manager and Regional Group Controller at Emergency Management Southland in New Zealand. He supervises three staff and services a

population of 93,339 (Statistics New Zealand, 2013) people across three Territorial Authorities. He has worked as a police officer for 20 years and served as a volunteer firefighter for 27 years. Observations and an interview were conducted over two days in May 2013. At the time, he had been in his position for four years.

Neil invited the researcher to interview two of his staff at Emergency Management Southland. Sandra Minser¹³ and Craig Sinclair were interviewed in May 2013 at their office.

Lee Hazelwood is the Manager and Regional Group Controller at Waikato Region Emergency Management in New Zealand. He supervises eight staff and services a population of 403,638 (Statistics New Zealand, 2013) people across 11 Territorial Authorities. An in-person interview was conducted in November 2013. At the time, he had been in his position for two years.

Dan Neely is the Manager of Community Resilience at the Wellington Regional Emergency Management Office in New Zealand. He supervises a team of six staff and services a population of 471,315 (Statistics New Zealand, 2013) people across nine District Councils, which includes the national capital. He holds university degrees in education and business. Observations and an interview were conducted over three days in April 2013.

As part of the time at the Wellington Regional Emergency Management Office, two additional staff, Bruce Pepperrell and Rian van Schalkwyk, were observed and three additional interviews were conducted. Bruce Pepperrell is the Regional Manager and Regional Group Controller. He supervises a staff of 22 people and has a military background. Bruce participated in an in-person interview and was observed for one day. The second is the Business and Development Manager, Rian van Schalkwyk. Rian

¹³ Participant requested a pseudonym be used.

participated in an in-person interview and was observed for one day. Peter Walker participated in an additional in-person interview at his office.

Chris Raine is the Emergency Services Manager and local Controller at the Waitaki District Council in New Zealand. He supervises one staff member and services a population of 20,826 (Statistics New Zealand, 2013) people. He has a background in meteorology and the ambulance service before moving into Emergency Management. Observations and an interview were conducted over three days in May 2013. At the time, he had been in his position for four years.

Alma Reed (see Footnote 13) is a staff member at a sub-national Emergency Management office¹⁴ in New Zealand. She participated in an in-person interview in April 2013 at her office.

Jim Buchanan is the Director of Emergency Services at Brigham City in the US. He oversees Emergency Management, the fire department, and the ambulance service in the jurisdiction of 17,899 (US Census, 2010) people. He holds a university degree in criminology and Emergency Management. Observations and an interview were conducted over five days in October 2012. At the time, he had been in his position for 14 years.

Perry Cogburn is the Director of Security and Emergency Management at the Virginia Department of Transportation in the US. He oversees a team of staff and is responsible for Emergency Management, critical infrastructure, security, incident management, call center, and continuity of operations. He holds university degrees in environmental studies and wildlife management. Observations and an interview were conducted over four days in November 2012. At the time, he had been in his position for 20 years.

¹⁴ Participant requested that their agency name not be disclosed.

Perry invited the researcher to interview some of his technical staff members. Steven Weber is responsible for security operations in the Virginia Department of Transportation. He has a military and law enforcement background. Steven participated in an in-person interview in November 2012 in his office.

Lyn Gross is the Director at the Emergency Services Coordination Agency that serves as a multi-city Emergency Management office in the US. She supervises three staff members and services a population of 187,000 people. Observations and an interview were conducted over three days in December 2012. At the time, she had been in her position for 21 years.

Lyn invited the researcher to observe and interview other staff members. Chandra Fox is the Emergency Management Coordinator and holds a university degree in literature. She was observed for one day and an interview was conducted.

Barb Graff is the Director in the Office of Emergency Management at the City of Seattle in the US. She supervises 13 staff and services a population of 608,660 (US Census, 2010) people. A telephone interview was conducted in December 2012. At the time, she had been in her position for seven years.

Mark Mall (see Footnote 13) is the Director of Emergency Management at a university in the US. He supervises four staff and reports directly to the Vice President. His office services a student population of 32,000 people. He holds university degrees in biology and engineering. Observations and an interview were conducted over three days in June 2013. At the time, he had been in his position for five years.

Michael Stever is the Emergency Manager at the Utah Department of Health. He supervises four staff and services a population of 2,763,885 (US Census, 2010) people. He holds university degrees in English and the arts. He has a background in law enforcement and education and has served as an Emergency Manager for 30 years.

Observations and an interview were conducted over five days in October 2012. At the time, he had been in his current position for four years.

Jason Shoe (see Footnote 13) is a staff member working in an Emergency Management office for the past 11 years at a state department of transportation (see Footnote 14) in the US. He holds a university degree, has a background in emergency communications, and has served as a volunteer firefighter for 25 years. An in-person interview was conducted in November 2012 at his office.

Alain Normand is the Manager in the Emergency Measures Office at the City of Brampton in Canada. He supervises six staff and three interns in an open floor plan office. He serves a population of 530,000 people. He holds university degrees in political science and public admonition. He teaches higher education courses in crisis communications and Emergency Management. Observations and an interview were conducted over three days in November 2012. At the time, he had been in his position for 12 years.

3.2.1.2.2.2. Business Track. Business Emergency Managers typically find themselves working in the area of business continuity management (BCM). Increasingly more and more find they are working in the areas of internal and external emergency planning, emergency response, and disaster recovery. Participants in this track were again full-time, dedicated employees responsible across the range of disciplines in their business. One BCM consultant was included in this group.

Like each of the government participants, all business track participants identified in Table 22 freely consented to participate in this study as approved by the University of Canterbury Human Ethics Committee (see Appendix C). Like all Emergency Management participants, they were given the option to have their name, title, and organization identified. Some pseudonyms have been used and identifying

characteristics may be omitted at their request. Chapter 4 relies heavily on the contributions of these Emergency Managers and the reader will benefit from a quick introduction.

Table 22
Private Sector Participants.

New Zealand	US	Canada
Zoe Byrne	Kevin Doak	
Paul Harris	Jose Dominguez	
Kin Lock	Robert Howard	
	Harper Huntley	
	Drew Leemon	
	Jonathan Mills	
	Kathy Sutton	
	Ray Wood	

Zoe Byrne is the Manager of Business Continuity Management and Resilience at an international financial institution (see Footnote 14) in New Zealand. Her responsibilities include business continuity, crisis management, risk assessment, regulatory compliance, and organizational resilience. She holds a university degree in Emergency Management. An in-person interview was conducted in November 2013 at her office. At the time, she had been in her position for two years and with the organization for three years.

Paul Harris (see Footnote 13) works in business continuity for an international transportation company (see Footnote 14) in New Zealand. His organization focuses on (1) people, (2) reputation, and (3) assets and facilities. Paul has a background as an ambulance officer and in rescue and does not hold a university degree. An interview was conducted in November 2013. At the time, he had been in his position for 12 years.

Kin Lock (see Footnote 13) is a business continuity management consultant (see Footnote 14) based in New Zealand. His background is in information technology and supply chain management. A telephone interview was conducted in November 2013. At the time, he had been consulting for 15 years.

Kevin Doak is the Director of Loss Prevention at Grande Lakes resort in the US. The property is 740 acres (190 hectares) and houses 1582 guest rooms, a spa, golf course, fitness center, and a 100,000 square foot (9290 square meter) conference center. His background is in the military and hospitality sector with a focus on human resources. He does not hold a university degree. An in-person interview was conducted in November 2012 at his office. At the time, he had been in his position for seven years.

Robert Howard is the Loss Prevention Manager at Marriott's Harbor Lakes in the US. The family-oriented property is 22 acres (8 hectares) and houses 432 guest rooms and multiple pools. Robert supervises 11 staff and views the responsibility of his department as largely risk management for the property with 5% of his time dedicated to business continuity. He holds a graduate degree in theology and has a background in the military. Observations and an interview were conducted over two days in November 2012. At the time, he had been with Marriott for six years.

Robert invited and arranged for the researcher to observe and interview staff at other Marriott resorts. Jose Dominguez and Jonathan Mills participated.

Jose Dominguez is the Director of Loss Prevention at Marriott's Grande Vista in the US. The property is 162 acres (65 hectares) and houses 1616 guest rooms, two golf courses, and a golf school. Jose supervises 22 staff and does not hold a university degree. Observations and an interview were conducted over one day in November 2012. At the time, he had been with Marriott for 11 years.

Jonathan Mills is the Director of Loss Prevention at Marriott's Cypress Harbor in the US. The property is on 247 acres (99 hectares) and houses 500 guest rooms. He holds a university degree in hospitality management. Observations and an interview were conducted over one day in November 2012. At the time, he had been with Marriott for six years.

Harper Huntley (see Footnote 13) is the Emergency Manager at a Fortune 100 international manufacturing facility (see Footnote 14) in the US. She works with a team of nine staff that looks after Emergency Management and business continuity. She holds a university degree in communications and has been involved in Emergency Management for seven years. An in-person interview was conducted in December 2012 at her office. At the time, she had been in her position for two years.

Drew Leemon is the Director of Risk Management at the National Outdoor Leadership School in the US. He is responsible for policy development, incident investigations, training, reporting, and response of events across all programs in 11 countries. To date, the organization has over 200,000 graduates in their multi-day and extended wilderness adventure programs. He holds a university degree in environmental studies and has been with the organization for 22 years. An in-person interview was conducted in June 2013 at his office. At the time, he had been in his position for 17 years.

Kathy Sutton (see Footnote 13) is a continuity planner (see Footnote 14) at an international aerospace company based in the US. Her job encompasses business continuity, crisis management, business resumption, and disaster recovery. She coordinates Emergency Management staff at 12 sites around the country and plans for 100,000 employees. She holds university degrees in emergency services and philosophy. An in-person interview was conducted in June 2013 at her office. At the time, she had been in her position for 10 years.

Ray Wood is Senior Director of Global Safety and Security at an international hospitality company (see Footnote 14). He supervises two headquarters staff and provides technical guidance to local staff at 52 properties worldwide. His office is responsible for policy development, updating BCP planning at each property twice a

year, claim investigations, property assessments, and inspections at all properties four times each year. He holds university degrees in human resources and public administration. His background is in law enforcement. Observations and an interview were conducted over one day in November 2012. At the time, he had been in his position for 12 years.

3.2.1.2.2.3. Nongovernmental Track. Encompassing a variety of labels such as aid, development, disaster risk reduction, disaster worker or responder, the NGO track includes individuals, primarily from large international NGOs working at the local or regional levels. Providing a range of services in multiple phases of Emergency Management, study participants in the NGO track were also full-time, dedicated employees.

Table 23
Nongovernmental Participants.

New Zealand	US	Canada
	Trevor Covington	
	Wade Gayler	

Like other Emergency Management participants, all NGO track participants identified in Table **23** freely consented to participate in this study as approved by the University of Canterbury Human Ethics Committee (see Appendix C). Each was given the option to have their name, title, and organization identified or not. One participant opted not to reveal their organization or affiliation. The reader will benefit from a quick introduction.

Trevor Covington is the Manager at a humanitarian organization (see Footnote 14) in the US. He is responsible for providing planning and response capabilities across multiple counties. He supervises volunteer staff and holds a university degree in Emergency Management. An in-person interview was conducted in December 2012. At the time, he had been in his position for two years.

Wade Gayler is the Regional Emergency Services Director at the Idaho Montana Region of the American Red Cross in the US. He is responsible for activities across 86,700 square miles (224,552 square kilometers) with a population of 1.4 million people. He supervises three paid staff and 100 skilled volunteers who respond to 250 disasters a year. He has 10 years of experience in disaster response with another NGO and does not hold a university degree. Observations and an interview were conducted over five days in December 2012. At the time, he had been in his position for one year.

3.2.1.2.3. *Observations as Data Collection.* Barnhardt (2008)

recognized that the traditional acquisition of knowledge for Indigenous people is through direct experience in their natural environment where Western science has a tendency to compartmentalize information in detached classrooms or laboratories. Emergency Managers were observed for a period of between one and five days during their normal work hours and at typical work locations. From the time of Aristotle to today, observations have been used to understand and explain the world around us. Through formal structures and a purposive nature, observations allow the researcher to gain impressions of the world around him through the use of visual, auditory, olfactory, kinetic, and gustatory senses (Adler & Alder, 1998).

Field notes were collected encompassing of daily activities, interactions with staff, partner agencies, customers, and others, as well as nonverbal interactions. Dimensions of the physical environment from whence they work were also noted. The context is the key to meaning (Dey, 1993) and by understanding it; the point of view of the participants is encapsulated. Observation is ostensibly an “act of noting a phenomenon, often with instruments, and recording it for scientific or other purposes” (Morris, 1973).

3.2.1.2.4. *Interview as Data Collection.* During the first week of

observations, it was recognized that something was needed to conclude the week. The

researcher sat down with the Emergency Manager to thank him for his participation and ended up asking one summary question: what does someone need to be successful in your position?

The response was overwhelming. As the Emergency Manager talked for approximately half an hour, it appeared that his comments were consistent with the researcher's observational field notes. The question was repeated with all subsequent Emergency Management participants and developed into an unanticipated data set of its own. Results and discussions in Chapter 4 include these responses alongside other data sources.

3.2.1.3. *Initiative 2: Partner Agency Representative.* To support the observations and interview results from the Emergency Managers in Initiative 1, participants were requested to provide the name of a partner agency representative to be interviewed. These interviews constitute an additional data set referred to throughout this study as Initiative 2.

3.2.1.3.1. *Natural Setting.* For many of the same reasons discussed earlier, interviews were conducted on-site at a time and place convenient for the participants. Most partner agency representative interviews were conducted in-person at the interviewees' offices.

3.2.1.3.2. *Participants as Purposive Sample.* Emergency Managers were asked to provide the name of one person they worked with on a regular basis that was outside of their direct reporting chain and who could provide commentary on their characteristics.

The sample for this initiative can be described as stratified by country and track and was purposefully sought. All but one Emergency Manager who was observed for multiple days provided a partner agency representative to be included. One

representative was interviewed but neglected to provide a signed consent form so is not represented in the data. In total, 10 partner agency representatives participated from three countries as outlined in Table 24 and Appendix D.

Table 24
Partner Agency Representative Participants.

New Zealand	US	Canada
Stu Gram	Jessica Holliday	Cheryl Jamieson
Devin Kerry	Michael Nelson	
John Pine	John Pennington	
Robert Wilson	Susan Tarry	
	Steve Slater	

Like all other participants, partner agency representatives freely consented to participate in this study as approved by the University of Canterbury Human Ethics Committee (see Appendix C). Each was given the option to have their name, title, and organization identified. To ensure the level of anonymity requested by each participant in this group, (a) representatives will not be associated with their recommending Emergency Managers, (b) pseudonyms have been used in many instances, and (c) one organization affiliation has been omitted. The reader will benefit from a quick introduction of these participants.

Stu Gram (see Footnote 13) with the New Zealand Fire Service participated in an in-person interview in his office during April 2013. He holds a university degree in Emergency Management and participates with an Emergency Management office on a variety of projects.

Devin Kerry (see Footnote 13) is a senior manager at the New Zealand Fire Service. He participated in an in-person interview at an Emergency Management office in April 2013.

John Pine is a Senior Sergeant with New Zealand Police. He was working in Christchurch during two large earthquakes and collaborates with an Emergency

Management office on a variety of projects. He was interviewed in-person at his office in May 2013.

Robert Wilson works for St. John Ambulance in New Zealand. He participated in an in-person interview in May 2013 at his office.

Jessica Holliday is the Chief Executive Officer at a local NGO (see Footnote 14) in the US. She works with an Emergency Management office on preparedness and response projects. She participated in an in-person interview in October 2012 at her office.

Michael Nelson is the Director of the Operation Division at the Virginia Department of Emergency Management in the US. He supervises 35 staff and is responsible for the operations of an EOC with 450 responders. He participated in an in-person interview in November 2012.

John Pennington is the Director of Emergency Management at Snohomish County in the US. He formerly served as the FEMA Director at Region X and was a four term elected official. He participated in an in-person interview at his office in December 2012.

Susan Tarry (see Footnote 13) is the Senior Manager at a university (see Footnote 14) in the US. She works with an Emergency Management office on a variety of projects and collaborates with the Emergency Manager on several statewide initiatives. She participated in an in-person interview in October 2012.

Steve Slater is the Manager of a sub-national office of an NGO (see Footnote 14) in the US. He works with the Emergency Manager on a variety of disaster responses. He participated in an in-person interview at the Emergency Manager's office in December 2012.

Cheryl Jamieson is an Emergency Management Specialist at the Region of Peel in Canada. She has worked for and with the Emergency Manager for many years on a

variety of projects. She participated in an in-person interview at her office in November 2012.

3.2.1.3.3. Interview as Data Collection. All the partner agency representative interviews serve two purposes in this study: (1) obtaining what Lincoln and Guba (1985) call “*here-and-now constructions*” (p. 268) of personal impressions, and (2) triangulation of data received from other sources. In the first account, interviewees provided their personal perceptions about specific Emergency Managers and the attributes generally needed in that position. This data sits alongside observations and other interviews and serves as verification of results.

Allowing for a flow of conversation, semi-structured questions were posed to identify what attributes they perceived the Emergency Manager possessed or should possess for success in their position. A list of attributes was never requested and participants were encouraged to define for themselves what was needed for success. This open questioning allowed each representative to identify skills, qualities, knowledge, resources, or any other manner of responses.

The relationship between the Emergency Manager and the partner agency representative varied and so did the exact nature of each interview. Some representatives wanted to discuss their views on Emergency Management degree programs, their philosophy of professional development, and their opinion on the need for experience in new hires. Interviews ranged from 10 minutes to 60 minutes in length and always included a discussion about attributes. An audio recording was made of each interview to aid analysis.

3.2.1.4. Initiative 3: Public. Similar to Initiative 2, in locations where an Emergency Manager was observed, a group of individuals from the community were identified for interviews. These public participants were contacted in a range of

locations and had varying exposure to the local Emergency Management programs. In this initiative, 65 public participants participated in in-person and telephone interviews and focus groups.

3.2.1.4.1. *Natural Setting.* Where possible, public participants were interviewed at an Emergency Management event that included preparedness fairs, training courses, and regular meetings. Settings were selected based on their applicability to Emergency Management and their availability during the time in a given location.

Where training courses were used, the researcher noted a relationship between the training content for that session and participant responses consistent with that content. As these training courses fell outside of the approved parameters of this study, no analysis is provided on this, but it is noteworthy.

On one occasion, a special meeting was convened for the purpose of a focus group. In another instance, six interviews were conducted by telephone when no occasion presented itself to meet people in-person. A description of each location is included with the participants at that location in the following section.

3.2.1.4.2. *Participants as Purposive Sample.* Participants were sought based on their interest in Emergency Management activities but did not receive payment or work as a part-time or full-time employee of the field. Public participants in this group are stratified by location and self selected by their participation in a sponsored activity.

Like other participants, these members of the public identified in Table **25** and **Appendix E** freely consented to participate in this study as approved by the University of Canterbury Human Ethics Committee (see Appendix C). Each of the 67 public participants was given the option of anonymity, in which case a pseudonym is used.

Table 25
Public Participants.

New Zealand	US	Canada
Sharon Boulton	Julia Acheson	
Trey Buck	Kevin Acheson	
Tom Connelly	Dan Agun	
Boyd Card	Reaberta Bauer	
Kirk Falconer	Wendy Loveen Biggs	
Neville Gard	Phil Blick	
Michelle Goldins	John F. Clark	
Dolelle Hawkins	Nathan Dyer	
Calvin Hons	Jan Egge	
Ian Hunter	Jack Easter	
Jason Ion	Kerry Field	
Pip Jepson	Nedda Field	
Mark Jordan	Edward Granda	
Abby Nadew	Robert Grinner	
Sally Reid	Steven Groseclose	
Jess Rend	William Hawkins	
Isaac Sales	Bob Haynie	
Dan Teebooa	Wallace Hinter	
Graeme Tilsley	Tony Jaeger	
Andrew Todd	Faye Keller	
Diana Turner	Robert Kelley	
Matthew Walker	Daymond Kofford	
Ken Weavers	John Leake	
Peter Westbrook	John Lee	
	Chrisson Maddux	
	Don Miles	
	Jon Mitchell	
	Nick Nedson	
	Katie Nikadow	
	Debbie Paiethorpe	
	Diana Pechoics	
	Brian Regrut	
	Damian Salas	
	Wes Shelton	
	Jane Smather	
	Roy Smith	
	Andrew Sorenson	
	Brad Spender	
	Heather Talbeck	
	Gloria Vincent	
	Erin Vast	
	Dal Wiscombe	
	Ethan Young	

Interviews were conducted around an Emergency Management event and a short description of each event and the participants follows.

In April 2013, the researcher attended a training session conducted by an Emergency Management office in New Zealand. The training was targeted at providing potential volunteers with information about community involvement around disaster preparedness and response. Michelle Goldings, Mark Jordan, Abby Nadew, and Isaac Sales (see Footnote 13) participated in an in-person interview.

Another group was interviewed in April 2013 in New Zealand. These participants were volunteer members of a Response Team. Response Teams in New Zealand are registered with MCDEM and operate under the authority of an Emergency Management office according to national guidelines (MCDEM, 2012). Their primary responsibility is to respond to local incidents. They receive training in impact assessment, cordons, first aid, general rescue, volunteer management, incident control, and welfare services. Sharon Boulton, Trey Buck (see Footnote 13), Tom Connelly, Kirk Falconer, Calvin Hons (see Footnote 13), Andrew Todd, and Ken Weavers participated in an in-person interview.

In May 2013, the researcher attended a meeting of local welfare volunteers conducted by an Emergency Management office in New Zealand. Welfare services in New Zealand address emergency accommodation, food, clothing, psychosocial support, financial assistance, medications, pet assistance, and other needs of the affected people (MCDEM, 2015a). Neville Gard, Dolelle Hawkins, Ian Hunter, Pip Jepson, and Diana Turner participated in a focus group.

In November 2013, the researcher attended a meeting with another Response Team in New Zealand. Boyd Card (see Footnote 13), Jason Ion, Sally Reid, Jess Rend (see

Footnote 13), Dan Teebooa, Graeme Tilsley, Matthew Walker (see Footnote 13), and Peter Westbrook participated in an in-person interview.

In October 2012, the researcher attended a Community Emergency Response Team (CERT) training in the US. CERT courses provide community members or workplace employees “with the basic skills that they will need to respond to their community’s immediate needs in the aftermath of a disaster, when emergency services are not immediately available” (FEMA, 2011a, p. 6). The training covers disaster preparedness, fire safety, disaster medical operations, light search and rescue, organization, disaster psychology, and terrorism. Students Reaberta Bauer, Edward Granda, Daymond Kofford, Debbie Paiethorpe, Wes Shelton, Heather Talbeck (see Footnote 13), and Ethan Young (see Footnote 13) in a basic CERT course participated in an in-person interview.

A church-organized emergency preparedness fair was attended in October 2012 in the US where Gloria Vincent and Diana Pechoics participated in an in-person interview.

In October 2012, the researcher attended a Citizen Corp Council (CCC) meeting in the US. An Emergency Management office organized this Citizen Corp Council as a jurisdiction wide community support and information network. The council included representatives from CERT, Volunteers in Police Service, Medical Reserve Corp, and amateur radio at each elementary school (see FEMA, 2011b for more on CCC). At this meeting, Bob Haynie, Jon Mitchell, and Dal Wiscombe participated in in-person interviews.

In October 2012, the researcher attended a church-sponsored amateur radio training course in the US. Amateur radio operators are licensed volunteers who provide emergency communication and technical assistance in support of emergency services organizations (ARRL, 2014). Students Chrisson Maddux and Andrew Sorenson participated in an in-person interview.

In November 2012, the researcher attended another basic CERT course in the US. Steven Groseclose, Robert Kelley, John Leake, Brian Regrut, Erin Vast (see Footnote 13) participated in an in-person interview.

In December 2012, the researcher attempted to contact public participants in Idaho in the US where an Emergency Management participant was being observed. No emergency preparedness fairs, CERT courses, or amateur radio courses could be identified during the researchers time in that location. The Emergency Management office provided access to several current and past CERT volunteers who agreed to participate in telephone interviews. Jack Easter (see Footnote 13), Phil Blick, Jan Egge, Faye Keller, and Katie Nikadow (see Footnote 13) provided responses.

Another group of volunteers participated at a different location in December 2012 in the US. As no regularly scheduled events could be found at this site either, the Emergency Manager arranged for volunteers to come and meet with the researcher as a group. Many of these volunteers were active amateur radio operators and all participated in the CERT program. This session was run as a focus group and included Julia Acheson, Kevin Acheson, Dan Agun, John F. Clark, Nathan Dyer, Kerry Field, Nedda Field, Robert Grinner, William Hawkins, Tony Jaeger, and Roy Smith.

In June 2013, a US-based Emergency Manager invited the researcher to solicit participants from a basic CERT training course. Wendy Loveen Biggs and Damian Salas agreed to provide an in-person interview.

The last interviews in this phase of the study were conducted at a basic CERT training course in November 2013 in the US. Wallace Hinter (see Footnote 13), Don Miles (see Footnote 13), Nick Nedson (see Footnote 13), Jane Smather (see Footnote 13), and Brad Spender (see Footnote 13) provided an in-person interview.

3.2.1.4.3. *Interview as Data Collection.* Participants were invited to participate in interviews concerning disaster work and education. They provided responses to four basic questions.

- Why did you decide to take part in this activity (training, preparedness fair, or volunteer group)?
- Who do you look to in times of crisis?
- What do you expect of those people?
- What can you do to help?

Question one served as an icebreaker and was not intended to reveal directly relevant data to this study. The second question about whom they look to in times of crisis was open-ended and not explicit to Emergency Managers. This was intentionally based on the expectation that participants in this initiative may be unaware of the Emergency Management field. Question three directly deals with attributes and accounts for much of what is reported from public participants in Chapter 4. The final question regarding what they can do to help served as a closing, intended to leave participants with a sense of empowerment to act after a disaster.

3.2.1.4.4. *Focus Group as Data Collection.* As noted, two groups participated in focus groups in lieu of individualized interviews due to time and organizational constraints. The researcher provided the same initial three questions as with the individual interviews. Participants were encouraged to express their own views and no consensus opinion was sought in accordance with standard practices (Remenyi, 2011). Interviews ranged from three minutes to 30 minutes in length and an audio recording was made of each to aid analysis.

3.2.1.5. *Inductive Data Analysis.* Inductive analysis and creative synthesis guided the review and synthesis of the participant provided information. Inductive analysis is utilized throughout the time of data collection to allow emerging findings to refine the later stages of the research design (Green, 2002) as evident in

Phase II. Patton (2002) describes the process as an “immersion in the details and specifics of the data to discover important patterns, themes, and interrelationships; begins by exploring, then confirming; guided by analytical principles rather than rules; ends with a creative synthesis” (p. 41).

To discover the important patterns in this attribute phase of the data, the field notes from observations, and recorded interviews were individually hand-coded by the researcher using NVivo 10. In an emergent nature, patterns and hence codes developed based on key phrases. These were subsequently grouped into hierarchical structures. A full detail of the codes, their structure, and occurrences is included in Chapter 4 and a list and description in Appendix F.

3.2.1.6. *Establishing Trust in the Data.* Lincoln and Guba (1985) point to four factors of trustworthiness in naturalistic inquiry: credibility, applicability, consistency, and neutrality. On the matter of credibility, or what could be compared to internal validity in other methodologies, they highlight the process of inquiry, discussed earlier with feedback loops and negotiated outcomes or Emergency Management interviews in this case. To address applicability, or external validity, naturalistic inquiry rejects the concept asserting, “at best only working hypotheses may be abstracted, the *transferability* of which is an empirical matter” (p. 297). Consistency of results, or reliability, is better described in terms of dependability in naturalistic inquiry where the reader must first understand that “one can never cross the *same* stream twice” (p. 299). That is to say that consistency accounts for the time and place and circumstances of which the data was collected and cannot be recreated. In proximity, the matter of dependability is addressed through the adaptive nature of the design to account for instability or change. The fourth factor, neutrality, or objectivity, is achieved when data

collection methods employ adequate distance between researcher and participants and when conducted without imposed values.

The data helps to paint the picture of what took place during the early stages of this study; it is the codes that help to make sense of it. Neither the data nor the codes can be viewed with a level of credibility unless the reader and the researcher have faith in their accuracy or interpretation. Questions of validity are addressed through the employment of multiple techniques to include persistent observations, singular researcher coding, and triangulation. As described earlier, observations were conducted over a period of five workdays for approximately 40 hours each. Observational data was compared to Emergency Manager interviews and triangulated with partner agency representative interviews. Additional information was gathered from interviews with the public that is described in more detail in Chapter 4.

3.2.2. Phase II: Assessment. Understanding what some of the key characteristics are of successful Emergency Managers is only one step in this process. Phase II takes those attributes and looks for ways to integrate them into the university curriculum. Assessment tools focused on these attributes were implemented in a class at the University of Canterbury in 2014. While only one site was used for this phase, the results are promising. Following Phase I efforts, a naturalistic inquiry methodology was used with similar roles and procedures.

3.2.2.1. Researcher as Human Instrument. An adaptive approach was taken in accordance with naturalistic principles, allowing the researcher to gain tacit knowledge and clarify and probe participant responses. The researcher was invited to observe group presentations before conducting focus groups with the students.

3.2.2.2. Natural Setting. The University of Canterbury in Christchurch, New Zealand, houses a variety of academic programs and research centers related to

hazards and risk in business, criminal justice, engineering, geography, and geology. The course, Environmental Hazards and Management (GEOG305), is an upper level undergraduate course that incorporates a group assignment. In consultation with the course coordinator, the group assignment was investigated and included here as Phase II.

The research was conducted during Semester 1 (February – June) of 2014. It was conducted in the assigned lecture theater during regularly scheduled class times. It is questionable if a lecture theater can be considered a true natural setting. Regardless, it is where many higher education students find themselves being taught and undergoing assessments. To that end, it constitutes the setting for this phase.

3.2.2.3. *Participants as Purposive Sample.* Forty-eight students registered in GEOG305 and participated. No demographic data was collected on the students' backgrounds; however, the course coordinator indicated that most are in the final year of a geography or geology bachelor's degree. As part of the class, they were divided into four laboratory sections.

Student participants were informed about the nature of the research and the investigation into course assignments as approved by the University of Canterbury Human Ethics Committee (see Appendix C). No instructors, teaching assistants, or the course coordinator were present during data collection. Students were informed that their participation in this study was optional and in no way would impact their course grade.

3.2.2.4. *Focus Group as Data Collection.* In each laboratory section, a teaching assistant assigned between 10 and 20 students to a working group, with a maximum of 25 allowed. These working groups completed the assignment and, in turn,

participated in a focus group. Each of the four focus groups included all working groups in that laboratory section which ranged from eight to 15 students.

In naturalistic style, discussions during the focus groups were varied and provided rich insights. Typically lasting 60 minutes, each session addressed four themes about the GEOG305 course to include lectures, laboratory sections, assessments, and group work. This study is concerned with the last two: assessments and group work.

3.2.2.5. *Inductive Data Analysis.* Focus group discussions followed inductive analysis and evolved over the course of the four sessions. The researcher, using NVivo10 coded audio recordings and transcriptions. Emergent codes were revealed based on key themes as described by Patton (2002) and provided the foundation for the discussion in Chapter 5. A summary report with anonymous student comments was provided to the course coordinator following the submission of semester grades.

3.2.2.6. *Establishing Trust in the Data.* Using the factors identified by Lincoln and Guba (1985) and employed in Phase I, focus group responses provide data that is trustworthy in accordance with naturalistic inquiry. Credibility is found through clarification, probing, and adaptation between groups. Applicability is the domain of unrealized context in which abstracted hypotheses may be proposed. The researcher shows dependability across the four focus groups and any extension beyond that point is the purview of others claiming reliability. Finally, neutrality is maintained through the exclusion of power figures (instructors, etc.) from the research setting, confidentiality, reporting only after grades have been submitted, personal distance in collecting and analyzing data, and a genuine desire by the course coordinator and researcher to understand and improve on assessment techniques.

3.3. Conclusion

Like a response plan, this chapter progresses from the assessment of literature in Chapter 2 to provide a framework of this study. It outlines the approach, roles, and type of work to take place. A modality based on naturalistic inquiry fits best with this type of fieldwork and provides underlying concepts and meaning that guide this study.

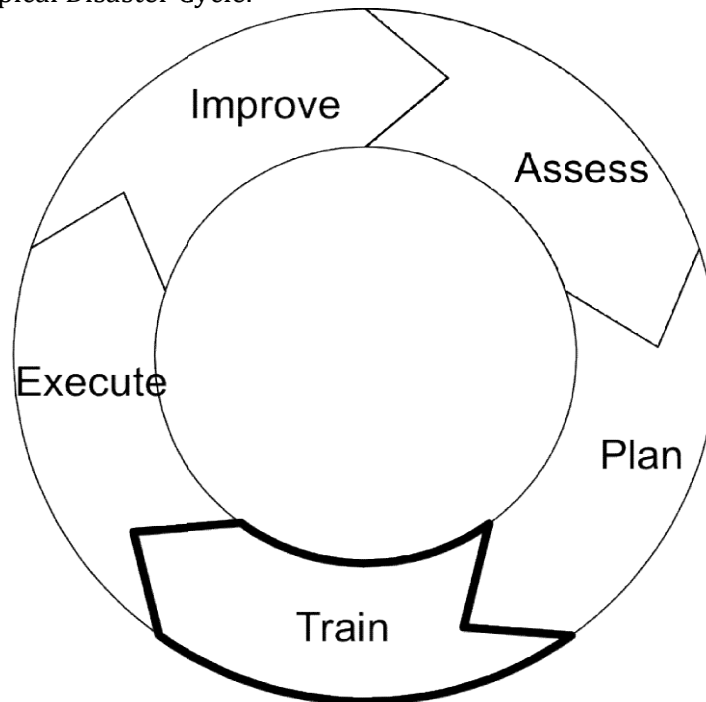
A plan, in and of itself, is only a plan. It is not good or bad, effective or ineffective. How that plan is used and what can be learned from its use has value. The following chapter takes a look at the results from the implementation of the plan described here.

4. Train: Attributes

If you are not prepared to be wrong, you will never come up with anything original.
Sr. Ken Robinson¹⁵

Having analyzed the hazards and planned for the response, the next piece is to train the responders. The use of the term training here is a bit of a misnomer. This entire project is about education, and this chapter deals specifically with the content of that education. It addresses the issue Dewey (1938) raised about schools not knowing what to teach.

Figure 12
Training in a Typical Disaster Cycle.



The chapter presents the results and a discussion of each attribute from Phase I of the study. It includes participants from all tracks and initiatives. The results discussed in this section are the efforts of 57 days of observations in 16 different Emergency Management offices, interviews with another 18 Emergency Managers, 10 partner

¹⁵ A quote from *The Element: How Finding Your Passion Changes Everything* by K. Robinson, & L. Aronica, 2009, p. 15. New York: NY: Viking.

agency representative interviews, and 67 interviews with members of the public, all in three different countries. Looking at the data, it is clear that several trends in the information began to develop. Five hierarchical categories emerged from the coding analysis as domains of attributes. In total there were 55 pages of field notes and 8 hours and 48 minutes of recorded interviews from a total of 111 participants in this phase of the study.

Participating Emergency Managers represented the three predominant tracks of government, business or the private sector, and nongovernmental organizations. A total of 34 Emergency Managers were included and the results presented here are based on a combination of observational data and interviews. The distribution of their track and geographic dispersion is provided in Table 26.

Table 26
Phase I Participants by Track and Country.

	Government	Business	NGO	Partners	Public	Country Totals
New Zealand	11	3		4	24	42
United States	9	8	2	5	43	67
Canada	1			1		2
Track Totals	21	11	2	10	67	
Total EMs	34					
n	111					

Five categories of attributes were revealed after analysis. To say that they span a wide range of knowledge, skills, and abilities is an understatement and not inclusive. Many can be attributed back to knowledge of specific subjects, the ability to perform specific skills, and the ability to negotiate tasks. Some go beyond this and relate more to a set of beliefs or personal philosophies. Each of the five categories is further subdivided into specific areas of specialization, henceforth referred to as attributes. Each attribute is comprised of hierarchical supporting codes directly associated with

observations or participant responses. In total, 271 supporting codes were identified 1478 times and subsequently grouped into the five categories with 30 attributes as shown in Table 27.

Table 27
Attributes by Domain.

	Attributes		Code Occurrences	
	Total	% of Total	Total	% of Total
Specific Knowledge Areas	11	36.67	437	29.57
Academic Skills				
Assessment				
Community Oriented Ethos				
Emergency Services Skills Areas				
Risk Management				
Emergency Management Area				
Phases				
Planning				
Regulatory Environment				
Roles				
Technology				
General Knowledge Areas	7	23.33	514	34.78
Communications				
Facilitation				
Persuasion				
Political & Administrative Intelligence				
Cognition				
Leadership				
Management Skills				
Personal Characteristics	5	16.67	306	20.70
Career Focused				
People Related				
Soft Skills				
Stress Tested				
Work Ethic				
Business Management	3	10	107	7.24
Administration				
Benefits & Finance				
Personnel Management				
Philosophical Dimensions	4	13.33	114	7.71
Collaboration				
Coordination & Cooperation				
Delegation				
Flexibility				
Totals	30		1478	

The chapter is organized by domain with an overview of the attributes included. Each attribute is present with a summary of the distribution of supporting codes, a description, supporting rationale from comparative documents and literature, as well as evidence from participants. Each attribute is presented on a new page for ease of reading. Also for clarity, references to other core competencies or outcomes identified in the comparative documents are presented in bold due to their sometimes-lengthy titles.

4.1. Specific Knowledge Areas (SKA)

Emergency Management has become incredibly technical and the requirements are incredibly diverse due to the enhanced number of hazards that exist these days.

Tony Jaeger, CERT Volunteer

It is no surprise that this domain represents the largest number of attributes and supporting codes. It is, however, not the most frequently cited. There has been a total of 11 attributes identified with 89 supporting codes that have been referenced 437 times in the data. Table 28 shows each of the attributes and the number of times they were referenced.

One attribute, in particular, stands out in this section as it has been only referred to by the public participants. When asked what they expected of leaders in a crisis, respondents reported things like crime prevention, fire inspection, rescue, physical security, first aid, and loss prevention. These items did not appear anywhere else in the observational data or in partner agency representative interviews. These public comments may be attributed to the locations where they were interviewed. Most public interviews took place at Emergency Management sponsored volunteer training events. In the US, these were, CERT classes, amateur radio classes, Citizen Corp Council meetings, and disaster preparedness fairs. Table 28 shows the same attributes excluding the Emergency Services Skills Areas attributes. It is believed that eliminating the 25 occurrences related to front line emergency services skills is a truer representation of the management role described in this study. Table 29 represents this change and shows a total of 10 attributes identified 70 supporting codes that have been referenced 412 times in the data.

The following pages look at each of the attributes in turn.

Table 28
Specific Knowledge Area Including Emergency Service Skill Attributes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Domain	% of Total Occurrences
Academic Skills	1	3	1	2	0	7	1.60	0.47
Assessment	8	11	2	26	2	49	11.21	3.32
Community Oriented Ethos	7	7	5	8	10	37	8.47	2.50
Emergency Service Skill Areas	8	1	0	14	2	25	5.72	1.69
Risk Management	9	1	0	0	0	10	2.29	0.68
Emergency Management Area	72	28	11	68	0	179	40.96	12.11
Phases	19	5	6	5	0	35	8.01	2.37
Planning	15	4	3	1	0	23	5.26	1.56
Regulatory Environment	12	9	1	0	0	22	5.03	1.49
Roles	12	3	2	6	0	23	5.26	1.56
Technology	19	3	2	2	1	27	6.18	1.83
Total	182	75	33	132	15	437		29.57
% of Domain	41.65	17.16	7.55	30.21	3.43			
% of Total Occurrences	12.31	5.07	2.23	8.93	1.01			

Table 29

Specific Knowledge Area Domain of Attributes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Domain	% of Total Occurrences
Academic Skills	1	3	1	2	0	7	1.70	0.47
Assessment	8	11	2	26	2	49	11.89	3.32
Community Oriented Ethos	7	7	5	8	10	37	8.98	2.50
Risk Management	9	1	0	0	0	10	2.43	0.68
Emergency Management Area	72	28	11	68	0	179	43.45	12.11
Phases	19	5	6	5	0	35	8.50	2.37
Planning	15	4	3	1	0	23	5.58	1.56
Regulatory Environment	12	9	1	0	0	22	5.34	1.49
Roles	12	3	2	6	0	23	5.58	1.56
Technology	19	3	2	2	1	27	6.55	1.83
Total	174	74	33	118	13	412		27.88
% of Domain	42.23	17.96	8.01	28.64	3.16			
% of Total Occurrences	11.77	5.01	7.98	7.98	0.88			

4.1.1. Academic Skills (SKA01)

Learning without thought is labor lost; thought without learning is perilous.
Confucius

Expressions of **SKA01-academci skills** appeared in all three initiatives:

Emergency Managers, partner agency representatives, and the public. With just seven coding occurrences, there were three hierarchical supporting codes that comments grouped into as seen in *Table 30*. One largely involved interview responses in which education was highly valued. Having a historical understanding of past hazard events, the local area, and initiatives or issues was also identified. A few points were made about academic skills in a nonspecific manner.

4.1.1.1. Description. Having a learned understanding based on formal study.

4.1.1.2. Rationale. Public participant Tony Jaeger's comment that opened this section amply describes the increased body of knowledge, specialization, and maturity of the Emergency Management profession. This concept is well supported in the research as well as professional literature. The Principles of Emergency Management recognizes the specialized body of knowledge and highlights having knowledge of local historical events as well as disaster relevant social science literature (FEMA, 2007). Woodbury (2005) identifies hazard and threat science as one essential theme for curriculum. He goes on to insist that leaders in the workplace "need an academic, not just experiential, knowledge base of the natural and manmade hazards that face their regions or facilities. They need to know the science behind the threats, not just the potential, operational consequences..." (p. 72).

Table 30
Academic Skills Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	1	0	0	1	0	2	28.57	0.46	0.14
Academic Skills	0	3	0	1	0	4	57.14	0.92	0.27
History of EM	0	0	1	0	0	1	14.29	0.23	0.07
Total	1	3	1	2	0	7		1.60	0.47
% of Attribute	14.29	42.86	14.29	28.57	0.00				
% of Domain	0.23	0.69	0.23	0.46	0.00				
% of Total Occurrences	0.07	0.20	0.07	0.14	0.00				

The importance of an academic appraisal has a varied representation in the Emergency Management attributes identified earlier. FEMA's 2010 *Curriculum Outcomes* (Cwiak, 2011; Jaffin, et al., 2011) integrates the concept throughout the entire document while the concept can be extrapolated from aspects of the Emergency Planning Society's (EPS) *Core Competences Framework* (2011). The EPS alludes to analytic and research skills as well as numeracy as a component of Theories and Concepts in Emergency Management. They are identified as skills rather than knowledge. Finally, the New Zealand Civil Defence Emergency Management's (MCDEM, 2011) *Civil Defence Emergency Management Competency Framework* makes no reference to academic knowledge. Multiple other references to academics can be found in Becker (2000), Jordá (2011), and many others.

4.1.1.3. Evidence. When asked "what someone needs to be successful in their position?" Mike Stever responded, people need an "educational background that allows you to be a good decision maker." Similarly, Alma Rupert said you need an academic education in Emergency Management. Lee Hazelwood talked about his hiring preference for people with degrees.

When asked "what makes an Emergency Manager good at their job?" John Pennington, a partner agency representative and Emergency Manager in his own right, said it was important that practitioners have a good understanding of the local history. Having a historical understanding of the area and its people is important as evidence by its recurrence in the data. Knowing the historical hazards, areas most likely to be affected, typical reactions of the affected and supporting communities, and key issues from other disasters help the professional better prepare, respond, and recover.

History was not the only knowledge identified related to this attribute. Chris Raine felt strongly in the importance of a tertiary education in hazards assessment and management. Public participants like Tony Jaeger also identified the importance of a broad educational base to understand and manage diverse hazards and their human interactions. Chemistry, biology, and physics provide an understanding for many technological hazards, while geology, geography, and meteorology provide for natural hazards. Sociology and psychology were identified to address the human impact and reaction to all such hazards.

4.1.2. Assessment (SKA02)

I philosophically believe that the tactical nature of emergency management in the past worked very well for the pre-911, pre-Katrina, pre- fill in the blank, large catastrophic event that gets the pendulum swinging. It does not work in the 21st Century with the technology of social media. We have to move to a more strategic application of emergency management.

John Pennington, Director at Snohomish County Emergency Management

So often the term assessment, when used in the Emergency Management context, invokes response focused activities of situational or damage reporting. These may include hazard identification, vulnerability and capacity analysis, risk assessment, or mitigation analysis. The Disaster Assessment Portal at www.disasterassessment.org run by the United Nations' Human Settlements Program and the Global Disaster Alert and Coordination System at www.gdacs.org provide an in-depth collection of assessment techniques. In the context of this research, assessments include damage, hazard, initial, needs, and situational assessments. It includes a broader notion of situational awareness, information gathering, hazard analysis, community assessments, observational skills, and a focus on the big picture. *Table 31* shows the supporting codes.

4.1.2.1. Description. The process of gathering and analyzing information in order to inform understanding.

4.1.2.2. Rationale. The International Organization for Standardization (ISO, 2009) refers to a risk assessment as an overall process of identification, analysis, and evaluation of risk (2009). FEMA (Cwiak, 2011) identifies the importance of **CRA-risk assessment processes and methodologies** as a core component of an Emergency Manager's education. It includes "hazard identification, threat analysis and vulnerability assessment within the overlapping contexts of the social, built and

Table 31
Assessment Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	0	1	0	4	0	5	10.20	1.14	0.34
Big Picture Community Assessments	2	2	1	2	0	7	14.29	1.60	0.47
Damage Assessment	1	1	0	1	0	3	6.12	0.69	0.20
Hazard Analysis	0	1	0	1	0	2	4.08	0.46	0.14
Hazard Assessment	1	0	0	0	0	1	2.04	0.23	0.07
Information Gathering	1	0	0	0	0	1	2.04	0.23	0.07
Initial Assessment	2	0	1	0	0	3	6.12	0.69	0.20
Needs Assessment	0	0	0	1	0	1	2.04	0.23	0.07
Observation Skills	0	3	0	6	0	9	18.37	2.06	0.61
Situation Monitoring	0	1	0	0	0	1	2.04	0.23	0.07
Situation Assessment	0	1	0	0	1	2	4.08	0.46	0.14
Situational Awareness	0	0	0	4	0	4	8.16	0.92	0.27
	1	1	0	7	1	10	20.41	2.29	0.68
Total	8	11	2	26	2	49		11.21	3.32
% of Attribute	16.33	22.45	4.08	53.06	4.08				
% of Domain	1.83	2.52	0.46	5.95	0.46				
% of Total Occurrences	0.54	0.74	0.14	1.76	0.14				

physical environment” (p. 14). The EPS (2011) includes the **EPS02-anticipation and assessment of emergency risk** as well as components of the **EPS07-management of response to emergencies** that partially align. Assessment concepts are found in MCDEM’s **IM-Information Management** key area of **IM03-systems and processes are applied to collect and maintain information, IM04-information is produced and disseminated, and IM05-information systems and processes are evaluated**. It also appears in the **RM-Risk Management** area as **RS01-hazards and risk are recognised, understood, and communicated** (2011).

4.1.2.3. Evidence. It was clear that the public expects its leaders to “understand needs,” “gather information of needs,” and “understand levels of needs.” They expect professional Emergency Managers to “know what to look for,” “identify weaknesses, “understand the nature of the problem,” make observations, and be “knowledgeable about the situation.” Jane Stock thought that it was critically important for professionals to be able to engage a community wide assessment. Brian Regrut and Julia Archeson agreed that an understanding of the big picture was important. Similarly, the Emergency Managers focused on big picture issues. Alain Normand not only demonstrated this concept during an exercise but coached his senior executive in the same principle. Bruce Pepperell believed that an understanding of all the components and how they interact was important. He used a metaphor of a musical performance with the lyrics, performers, sights, and sounds, which enriches the whole experience. Mark Mall said that he preferred to focus his attention on developing big picture guidelines as opposed to detailed descriptive procedures. When asked “what does someone need to be successful in your position?” Dan Neely replied they should “stay focused on the big picture.”

Kathy Sutton had the responsibility for monitoring information and coordinating efforts in multiple countries for an international aerospace company. Paul Harris also stated that monitoring hazards is critical to his role with an international transport provider. Steve Weber highlighted how difficult it can be and how extremely important it is to be able to sort through a large amount of information in order to extract the most important components. With the increasing availability of information, the ability to synthesize that information is even more critical.

4.1.3. Community Oriented Ethos (SKA03)

There is no one silver bullet when dealing with communities.

Dan Neely, Wellington Regional Emergency Management Office

A dizzying amount has been written recently on the topic of communities in the disaster literature. Many approach the concept of community from a spatial perspective referring to it by political, administrative, or geographical boundaries such as in Los Angeles (Eisenman et al., 2014) and Australia (Arbon, Gebbie, Cusack, Perere, & Verdonk, 2014), among many others. The Committee on Private-Public Sector Collaboration to Enhance Community Disaster Resilience (2011) identifies that community cannot be solely defined by jurisdictional boundaries just like disasters do not confine themselves to such areas. They advocate, “communities are dynamic and ever-changing” (p. 14). Passerini (2010) recognizes that communities may be based around geographical boundaries as well as other self-selecting categories like culture, interests, and organizational affiliation. He refers to communities as a mosaic where people living in the same geographical area have vast differences in values, interests, religions, and access to services, and a sense of obligation to others.

Believing that the widely accepted geographic representation of community is limiting and not reflective of the nature of relationships, this attribute relies on the broader concept. The idea of community presented here is not simply about providing information or supplies to a group of people. It is predicated on working with communities to understand what their needs are and working towards a solution as represented in the supporting codes found in Table 32. Like Dan’s quote at the beginning of this attribute, “there is no silver bullet when dealing with communities.”

Table 32

Community Oriented Ethos Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	3	4	3	5	5	20	54.05	4.58	1.35
Care of Community	0	0	1	0	2	3	8.11	0.69	0.20
Community Support	4	3	1	0	3	11	29.73	2.52	0.74
Emotional Support	0	0	0	1	0	1	2.70	0.23	0.07
Personal Care	0	0	0	2	0	2	5.41	0.46	0.14
Total	7	7	5	8	10	37		8.47	2.50
% of Attribute	18.92	18.92	13.51	21.62	27.03				
% of Domain	1.60	1.60	1.14	1.83	2.29				
% of Total Occurrences	0.47	0.47	0.34	0.54	0.68				

4.1.3.1. Description. A disposition that recognizes the importance and benefits of a social construct of community where shared values, interest, and affiliations are celebrated and empowered.

4.1.3.2. Rationale. Following the 1993 attack on the World Trade Center in New York, more than \$100 million USD was spent on improvements while Ripley (2009) believes the community, the regular people, were neglected in any planning. A review by the London Regional Resilience Forum (2006) of the 2005 London subway bombing criticizes efforts for a “lack of consideration of individuals caught up in major or catastrophic incidents” and stated that the focus was “on incidents rather than individuals, process rather than people” (p. 17). Referring to the attacks of 11 September, Ripley accuses that “experts will err on the side of excluding the public, as we have seen. If they can avoid enrolling regular people in their emergency plans, they will. Life is easier that way, until something goes wrong” (2009).

People are central to this notion of community. It is not a place or an area. It is a feeling or perception of connection and support.

Community is a participatory process. For individuals, it is an active process. For governmental administrators, it may be viewed differently. Arnstein (1969) identifies a progressive process of involvement from nonparticipation to citizen empowerment. The International Association for Public Participation (IAP2) has updated Arnstein’s Ladder of Participation to the Spectrum of Public Participation as outlined in Table 33.

Several authors have highlighted the benefits on future programs and projects after engaging with the community (see Brown, 2012; Laurian & Shaw, 2008; Rowe & Frewer, 2005). Smith (2003) says that the benefits of public inclusion in the process is to enhance effectiveness, meet the growing desire of individuals to participate, resolve

conflicts, establish priorities and increase fiscal responsibility, increase public knowledge and understanding, establish or solidify legitimacy, and make resource allocation decisions.

Table 33
Comparison of IAP2’s Spectrum of Public Participation with Arnstein’s Ladder of Participation.

Level of Citizen Empowerment	IAP2’s Spectrum of Participation	Arnstein’s Ladder of Participation
Highest	Empower	<i>Citizen Power:</i> Citizen Control
	Collaborate	<i>Citizen Power:</i> Delegated Power
Moderate	Involve	<i>Citizen Power:</i> Partnership
		<i>Tokenism:</i> Consultation, Placation
	Consult	<i>Tokenism:</i> Informing
		<i>Nonparticipation:</i> Manipulation Therapy

Note: Adapted from “Climbing the Ladder of Participation: Establishing Local Policies for Participatory Practice,” by M. Stout, 2010, Public Administration and Management, 15:1, p. 53. Copyright 2010 by the National Civil League.

Community is not about telling the public what is happening although that is important. The concept of community here is about listening and involving individuals and groups in the process.

FEMA (Cwiak, 2011) does not explicitly capture the **SKA03-community** attribute, observed and expressed by this study’s participants. It does include **CHM-human dimensions** and community planning, but the provided descriptions lack the direction strived for here. MCDEM’s (2011) inclusion of community is found first in **RM01-relationships with key individuals, partner organisations and communites are established** and partially in **RM02-established relationships are actively managed and sustained**. The concept is somewhat deemphasized in several later attributes by

the use of top-down language. Likewise, the EPS (2011) addresses the issue in **EPS06-communicate with the community to enhance resilience** with top-down rhetoric. Some additional language is included in **EPS08-manage the recovery from emergencies**.

4.1.3.3. Evidence. In discussions with members of the public, it was clear they felt a personal sense of responsibility to help in their communities during a disaster. Brian Regrut expressed a desire to take personal responsibility to help his neighbors. Jan Egge's focus was on taking care of his neighborhood. Similarly, Steven Groseclose when asked why he was taking the training said, "neighbors helping neighbors is what it's all about." The researcher asked Steven what he could do in a crisis, and he replied that he wanted to "bring community back." He explained that his desire was to work towards an idyllic view of small communities where people know each other and take personal responsibility in each other's well-being. Wallace Hinter expected local authorities to train community members prior to an emergency to work and support their community. Public participants expected to be involved in Emergency Management processes.

Partner agency representatives acknowledged the importance of connecting personally the individuals and the community. Jessica Holliday remarked about an Emergency Manager who she worked with saying, "he cares about the community." Susan Tarry prominently described an Emergency Manager as 'hav[ing] a positive effect on a community.' This is supported by the observational data as well.

Field note analysis indicated that exceptional Emergency Managers had a high focus on individuals and communities. This focus went well beyond typical rhetoric. Jim Buchanan exemplified a genuine commitment to individuals and their communities. He routinely made the local EOC available to the area garden or bridge club as there are

few other meeting spaces available and he believed that the citizens support his program so he is going to support them. He was observed working with enthusiastic volunteers and guiding them to organize and support their own community. Lamorna Cooper also expressed an understanding of who constitutes her community and who Emergency Management serves. Michael Stever remarked that to be successful requires “being human and working with people.”

4.1.4. Emergency Services Skills Area

Essential functions of a principal are vastly different from those of a teacher. A hospital administrator has little in common with a good surgeon; similarly, the role of an Emergency Manager is not easily equated to that of a firefighter, engineer, nurse, or other disciplines that work during a disaster. Kendra (2007) says that the role of an Emergency Manager is one of coordination and is not hands-on. They coordinate a multitude of disciplines, resources, and systems (Quarantelli, 1993; Pine, 2006).

The 12 supporting codes seen in *Table 34* are most associated with the roles of partner agencies rather than with Emergency Management. Although listed here and accounted for throughout this study, this topic sits outside the realm of other attributes due to the roles and sources of information. Data related to **emergency services skills** comes from two distinct groups: business track observations and public interviews.

First, the eight observations (32%) came from business track Emergency Managers whose portfolios included such areas as loss prevention, fire code compliance, and medical response. These observations are included here not because they are directly related to Emergency Management but because they are a singular part of what was observed. It would be improper to omit an observation, but it should be noted from which context they were observed. Ray Wood expressed that he spends a lot of time working with fire codes and inspections at his international properties. His comments alone accounted for almost half (44%) of all comments in this domain. Security issues arose with Robert Howard and Jason Shoe, who both worked directly with security issues as an additional responsibility to their Emergency Management role. Steven

Table 34

Emergency Service Skill Areas Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Crime	1	0	0	0	0	1	4.00	0.23	0.07
Critical Infrastructure	1	0	0	0	0	1	4.00	0.23	0.07
Fire Code	1	0	0	0	0	1	4.00	0.23	0.07
Fire Inspection	1	0	0	0	0	1	4.00	0.23	0.07
Flood Control	0	0	0	1	0	1	4.00	0.23	0.07
Ground Support	0	0	0	0	1	1	4.00	0.23	0.07
Hazardous Materials	0	0	0	2	0	2	8.00	0.46	0.14
Loss Prevention	1	0	0	0	0	1	4.00	0.23	0.07
Medical	1	0	0	5	1	7	28.00	1.60	0.47
Physical Security	2	0	0	4	0	6	24.00	1.37	0.41
Rescue	0	0	0	1	0	1	4.00	0.23	0.07
Security	0	1	0	1	0	2	8.00	0.46	0.14
Total	8	1	0	14	2	25		5.72	1.69
% of Attribute	32.00	4.00	0.00	56.00	8.00				
% of Domain	1.83	0.23	0.00	3.20	0.46				
% of Total Occurrences	0.54	0.07	0.00	0.95	0.14				

Weber talked about the importance of critical infrastructure as his role directly related to project management in this area.

Secondly, 14 code occurrences (56%) came from public participants. Several public participants expected Emergency Managers to provide CPR and first aid. Others believed that Emergency Managers should be in the field providing security and filling sandbags. Another thought dealing with chemicals was important. It was discussed earlier that public participants were recruited from training courses that included rescue, medical, fire, security, and other such subjects. It is unknown how much these public participants' training may have influenced their responses.

No description, rationale, or further discussion is provided on this topic, as it is not viewed as the role of a higher education curriculum to address these areas at this time. These areas may be better suited for professional development training.

4.1.5. Risk Management (SKA04)

A ship in harbor is safe, but that is not what ships are made for.

John A. Shedd¹⁶

Described as “[t]he culture, processes and structures that are put in place to effectively manage potential negative events” (DRJ, 2014, p. 22), risk management is closely aligned with the concept of Emergency Management. Britton (2004) identifies a wave of international activity where Emergency Management is shifting into a broad base risk management framework. In fact, McEntire (2004) notes that a way to advance the profession of Emergency Management may be by the adoption of risk management as a new name.

Some risk cannot be eliminated, but for others, strategies can be employed to avoid, transfer, or control them while others may be accepted (see AS/NZS 5050, 2010; SASNZ 327, 2010; AS/NZS ISO 31000, 2009; ISO 31000, 2009; IRM, 2002). The identification, assessment, evaluation, and treatment of risk is a process much like how hazards are approached in Emergency Management.

In this context, we may view hazard, financial, strategic, and operational as typical risk categories for capturing the multitude of drivers (IRM, 2002). Dionne (2013) identifies five major types of risk as (a) pure risk comprising the consequences of an event and the probability and/or frequency of that event, (b) market risk which addresses variability related to assets, (c) default risk which includes recovery rates, (d) operational risk which encompasses disruption of services and misconduct, and (e) liquidity risk that includes the availability of resources at critical times to maintain services and commitments. Risk management is highlighted in professional practices of

¹⁶ A quote from *Salt from My Attic* by J. A. Shedd, 1928. Portland, ME: Mosher Press.

Table 35

Risk Management Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	2	0	0	0	0	2	20.00	0.46	0.14
Brand Management	1	0	0	0	0	1	10.00	0.23	0.07
Case Law	1	0	0	0	0	1	10.00	0.23	0.07
Insurance	2	0	0	0	0	2	20.00	0.46	0.14
Liability	1	1	0	0	0	2	20.00	0.46	0.14
Property Liability	1	0	0	0	0	1	10.00	0.23	0.07
Risk Assessment	1	0	0	0	0	1	10.00	0.23	0.07
Total	9	1	0	0	0	10		2.29	0.68
% of Attribute	90.00	10.00	0.00	0.00	0.00				
% of Domain	20.59	0.23	0.00	0.00	0.00				
% of Total Occurrences	0.61	0.07	0.00	0.00	0.00				

business continuity (DRI, 2008) and appears in other aspects of Emergency Management literature. Risk assessments and risk analysis are prevalent in the Emergency Management circles.

The view here encompasses more than financial risk to include operational, reporting, compliance, governance, strategic, reputational, and additional areas. This comprehensive strategy is often referred to as enterprise risk management (Bromiley, McShane, Nair, & Rustambekov, 2015). Seven supporting codes contribute to this attribute, which includes 10 total occurrences (5% of domain) as seen in Table 35. Observations account for 90% of code occurrences in this attribute.

4.1.5.1. Description. The use of defined practices, procedures, structures and culture involved in identifying, assessing, analyzing, avoiding, eliminating, controlling, or minimizing negative events.

4.1.5.2. Rationale. The *Principles of Emergency Management* (FEMA, 2007) advocates for risk-driven process and the use of “sound risk management principles” (p. 6) in assigning priorities and resources. Designed for programs, the Emergency Management Accreditation Program (EMAP) (2013) speaks similarly about identifying hazards and assessing risk. Kapucu (2011) identified for the University of Central Florida’s program that graduates “should have a solid understanding of risk management and its component parts such as hazards and vulnerability analysis, risk assessment, risk communication, risk-based decision making, and monitoring and measurement” (p. 508). FEMA (Cwiak, 2011) identifies **CRA-risk assessment process and methodology** explaining that “[g]raduates should possess the ability to apply processes and methodologies including hazard identification, threat analysis and vulnerability assessment within the overlapping contexts of the social, built, and

physical environment” (p. 8). EPS (2011) addresses risk related issues in **EPS02-anticipate and assess the risk of emergencies**. Finally, MCDEM (2011) has a key area with three competencies devoted to risk management; **RS01-hazards and risks are recognized, understood, and communicated; RS02-risk management is understood and applied; and RS03-risk management processes and outcomes are monitored, evaluated, and reviewed**. Based on the available information, it is hard to know the extent that these documents approach risk management.

4.1.5.3. Evidence. This attribute is generated solely from Emergency Manager observations and interviews. Robert Howard said that he viewed his job with an international hotel chain as risk management and a facilitator to raise safety concerns. Ray Wood and Lamorna Cooper were observed engaging with insurance issues for their organizations. Ray and Kevin Doak identified the importance of knowing and keeping current with legal requirements and case law related to liability. Finally of note, Bruce Pepperell expressed great understanding of risk management issues when expressing concern over a proposed program in his office. His concern was how local residents would perceive the program’s implementation and how it might reflect on his office and that of other local government agencies. His assessment of the potential risk to the CDEM brand went beyond a discipline specific hazard or the traditional financial risk management perspective.

4.1.6. Emergency Management Areas (SKA05)

Climate is what we may expect, weather is what we actually get.

Andrew Herbertson¹⁷

According to the UNISDR, Emergency Management includes the “organization and management of resources and responsibilities for addressing all aspects of emergencies...” (2009, p. 13). Identified responsibilities include risk assessments, planning, training, EOC operations, establishing communications, applying lessons learned (Blanchard, 2005), exercises (Blanchard, 2005; FEMA, 2005b), COOP and COG (Spiewak, 2005), hazard and threat science (Marks, 2005; Woodbury, 2005) and resource management (FEMA, 2005b, Spiewak, 2005), among others.

Twenty-seven supporting codes with 177 occurrences account for 40.5% of this domain. Table 36 provides a list all off supporting codes and reveals a wide diversity of responsibilities. Exercises (12%), general and technical knowledge (13%), and resource management (20%) account for the largest occurrences.

4.1.6.1. Description. Knowledge and skills uniquely applied or adapted to the field and practice of Emergency Management.

4.1.6.2. Rationale. The EPS (2011) addresses some aspect of exercises in eight of their 12 competencies. In **ESP05-validate emergency or business continuity plans**, Emergency Managers are expected “to use live, simulated, table top or other methods of exercising” (p. 19) to conduct validations. The idea of Emergency Management knowledge is integrated into each of the EPS’ competencies.

¹⁷ A quote from *Outlines of Physiography: An Introduction to the Study of the Earth* (3 Rev. ed.) by A. J. Herbertson, 1901. Retrieved from <http://archive.org/stream/outlinesofphysio00herb>

Table 36

Emergency Management Areas Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Business Continuity Management	8	2	1	1	0	12	6.78	2.75	0.81
Climate Change Consequence	0	2	0	0	0	2	1.13	0.46	0.14
Debris Removal	1	0	0	0	0	1	0.56	0.23	0.07
Environmental Conditions	0	0	0	1	0	1	0.56	0.23	0.07
Environmental Design	1	0	0	0	0	1	0.56	0.23	0.07
EOC	8	0	0	0	0	8	4.52	1.83	0.54
Establish Base	0	0	0	1	0	1	0.56	0.23	0.07
Evacuation	0	0	0	1	0	1	0.56	0.23	0.07
Exercise	15	2	0	4	0	21	11.86	4.81	1.42
Facility Maintenance	1	1	0	0	0	2	1.13	0.46	0.14
Food	0	0	0	2	0	2	1.13	0.46	0.14
Hazards	5	5	0	2	0	12	6.78	2.75	0.81
Knowledge	6	6	4	7	0	23	12.99	5.26	1.56
Mobilize Responders	0	0	0	1	0	1	0.56	0.23	0.07
Notification	3	0	0	2	0	5	2.82	1.14	0.34
Operational Readiness	1	0	0	0	0	1	0.56	0.23	0.07
Resilience	3	1	0	0	0	4	2.26	0.92	0.27
Resource Management	4	1	4	27	0	36	20.34	8.24	2.44
Safety Awareness	0	2	0	4	0	6	3.39	1.37	0.41
Staging Area	0	0	0	1	0	1	0.56	0.23	0.07
Understand Issues	0	1	2	1	0	4	2.26	0.92	0.27

Volunteer	8	3	0	4	0	15	8.47	3.43	1.01
Vulnerability	1	0	0	0	0	1	0.56	0.23	0.07
Vulnerable Populations	1	0	0	0	0	1	0.56	0.23	0.07
Water Restoration	1	0	0	2	0	3	1.69	0.69	0.20
Welfare	4	0	0	7	0	11	6.21	2.52	0.74
Total	72	26	11	68	0	177		40.50	11.98
% of Attribute	40.68	14.69	6.21	38.42	0.00				
% of Domain	16.48	5.95	2.52	15.56	0.00				
% of Total Occurrences	4.87	1.76	0.74	4.60	0.00				

EPS01-theories and concepts in emergency management specifically addresses knowledge of the field and

provides a basic understanding of the concepts, theories and terminology that are used in Emergency Management. The aim is to equip the aspiring practitioner with the fundamental knowledge and understanding to be able to effectively participate in Emergency Management activities. (EPS, 2011, p. 5)

Likewise, resource management is addressed in multiple competencies (7 of 12), largely in **EPS03-plan for emergencies, EPS04-plan for business continuity, and EPS08-manage the recovery from emergencies.**

FEMA (Cwiak, 2011) addresses many of the supporting codes of this attribute in one of their outcomes, **CAE-areas of emergency management responsibility**. In this, FEMA specifically identifies debris removal, evacuation, exercises, resilience, volunteers, and welfare among the responsibilities. They include planning and assessment in **CAE-areas of emergency management responsibility** where this study separates them into individual attributes. Conversely, FEMA lists resource management in **CFD-fiscal dimensions of emergency management** while this study includes it in **SKA05-emergency management skill areas** (Jaffin et al., 2011).

4.1.6.3. Evidence. Emergency Managers were observed planning, participating in, meeting about, and discussing a variety of tabletop and functional exercises as part of their regular activities. Mark Mall and Mike Stever demonstrated an in-depth understanding of exercise dynamics when discussing upcoming exercises. Alain Normand was observed participating in a tabletop exercise with senior managers in which he timed the exercise to coincide with newly elected officials as indoctrination to the Emergency Measures Office and their roles in a disaster. Harper Huntley stated that Emergency Managers should be moving beyond just tabletop exercises and

conducting more functional and field-based exercises. She also supported using real world current events as a platform to discuss “what if” scenarios with senior managers. Paul Harris also commented on the importance of discussing exercises with senior leadership. He included highlights from exercises and incidents in reports to his leadership. Members of the public expect Emergency Managers to be fluent in exercise issues. They specifically identified participation in, design of, and knowledge of exercises.

Knowledge of Emergency Management was another area identified in the data. Knowledge as represented in this supporting code, fell into two categories: unspecified and technical. Responding to the question about what someone needs to be successful, Lynn Gross said Emergency Managers need to “know a little about a lot of topics,” indicating a wide understanding of emergency, administrative, and aid systems. Similarly, Mark Mall identified the importance of a “strong foundation” in Emergency Management and its facets. Mark went on to say that “you can’t wing it”; Emergency Managers need to understand the system and its complexity in order to successfully navigate it. Knowledge of a wide variety of areas was again seen in comments from Susan Tarry when describing why an Emergency Management partner is so good at his job. She attributed it to his “very comprehensive understanding of all of the opportunities an Emergency Manager has to affect” and says that “you can ask him about anything and he has a basic knowledge.”

Perry Cogburn discussed knowledge a little differently. He identified that his staff are the technical experts in their areas of responsibility and as a manager, he has evolved into more of a generalist. Partners Jessica Holliday and Michael Nelson also identified that Emergency Management requires technical knowledge, but Washington

State CERT member Tony Jaeger summed up the sentiment saying, “Emergency Management has become incredibly technical and the requirements are incredibly diverse due to the enhanced number of hazards that exist these days.”

One such requirement that accounts for 20% of occurrences in this attribute was resource management. Both Lyn Gross and Bruce Pepperell believed strongly that their role as Emergency Managers and the role of their offices is to provide resources and support to responding agencies and communities. Partner Stu Gram supported this sentiment, saying that he looks to CDEM to provide resources that his agency needs to operate. While previous data points have been relatively general about resource management, public participants identified a variety of components in their comments. Their comments began with (a) identifying and possessing resources; (b) acquiring resources; (c) assigning, deploying, dispatching, and generally providing resources; (d) directing, managing, and coordinating resources; and (e) sharing resources. Perhaps the only step not identified by public participants was the prioritization of resources as discussed by EMAP (2010).

4.1.7. Phases (SKA06)

The best response is one that is not needed.

Jonathan Mills, Director of Loss Prevention at Marriott's Cypress Harbor

Much of the general public may not realize that Emergency Managers work in businesses, NGOs, and governments before, during, and after disasters. The roles of an Emergency Manager span multiple periods of times and genres of initiatives. These phases appear with different labels in the different countries as part of this study (see Table 37) although the work may be similar.

Table 37
Phase Comparison between US & New Zealand.

The Principles of Emergency Management	US DHS	New Zealand MCDEM
Mitigation	Mitigation	Reduction
Preparedness	Protection Prevention	Readiness
Response	Response	Response
Recovery	Recovery	Recovery

Note. Adapted from U. S. Federal Emergency Management Agency (2007). Principles of Emergency Management supplement, p. 5. and U. S. Department of Homeland Security (2014). National preparedness framework, p. 1. and New Zealand Civil Defence and Emergency Management (MCDEM, 2007b). National civil defence emergency management strategy, p. 5.

This attribute addresses the traditional four phases with the addition of prevention which was added in the US (HSPD-8, 2003). A comprehensive, or all-hazard approach, is also included in this area. The full list of supporting areas is included in Table 38 with their occurrence in the data.

It may be impossible to separate the free will or independent inclusion of the phases and comprehensive approach from governmental requirements in the study countries. Emergency managers working in the governmental structure are subject to such rules while the same working in business and NGO may only be influenced by them. Either way, it cannot be determined by the data from whence this attribute arose.

Table 38
Phases Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Comprehensive	1	0	0	0	0	1	2.86	0.23	0.07
Mitigation/Reduction	4	1	1	0	0	6	17.14	1.37	0.41
Preparedness/ Readiness	5	2	3	5	0	15	42.86	3.43	1.01
Prevention	4	0	1	0	0	5	14.29	1.14	0.34
Recovery	0	0	0	0	0	0	0.00	0.00	0.00
Response	5	2	1	0	0	8	22.86	1.83	0.54
Total	19	5	6	5	0	35		8.01	2.37
% of Attribute	54.29	14.29	17.14	14.29	0.00				
% of Domain	4.35	1.14	1.37	1.14	0.00				
% of Total Occurrences	1.29	0.34	0.41	0.34	0.00				

Having said that, the phases attribute remains as a currently accepted way of approaching Emergency Management.

4.1.7.1. Description. Distinct areas that provide an overarching framework of Emergency Management activities.

4.1.7.2. Rationale. It is hard to find anything in the academic or practitioner Emergency Management literature that does not espouse the use of the phases in organizing or administering the work. The Principles of Emergency Management (FEMA, 2007) identifies mitigation, preparedness, response, and recovery. FEMA (Cwiak, 2011) identifies the **CPE-Principles of Emergency Management** as a core area. EPS (2011) states in **EPS01-theories and concepts in emergency management** that the disaster cycle needs to be known and understood. New Zealand's Civil Defence Emergency Management Act (2002) prescribes the four areas of Emergency Management. MCDEM (Cwiak, 2011) addresses them, as well, in a general way; however, they are not explicitly mentioned.

The comprehensive nature of Emergency Management is most often dated back to the *National Governor's Association Emergency Preparedness Project Final Report* (Whittaker, 1978) but has become commonplace as described in Chapter 2. A comprehensive nature features prominently in the *Principles of Emergency Management* (FEMA, 2007), FEMA's *State and Local Guide 101, a Guide for All-Hazard Emergency Operations Planning* (1996), both editions of *Emergency Management: Principles and Practices for Local Government* (Drabek & Hoetmer, 1991; Waugh & Teirney, 2007), and *New Zealand's National Civil Defence Emergency Management Strategy* (MCDEM, 2007b).

4.1.7.3. Evidence. Barb Graff faced a wide range of hazards and was eager to keep an open mind about others. She advocated for the inclusion of climate change in

the city's planning efforts. Her comprehensive approach to hazards is common of the Emergency Managers in this study. They often used an all-hazard approach under national guidance in all phases of their efforts.

It is no surprise that the bulk (43%) of the observational data and interviews revealed a heavy focus on the preparedness phase. Having said that, all of the preparedness data refers to preparing to respond, indicating a focus on the failure of a community to cope. Alain Normand exemplified this as we toured and discussed their shelters, emergency generators, and fuel storage facilities. Wellington Region was in the process of launching their household rainwater collection program when the researcher visited. Mark Mall said that his program focuses on "individual preparedness, department readiness, and institutional resiliency." The same focus on preparedness was noted in a response from Rian van Schalkwyk when he says that Emergency Managers need to prepare for response that may never happen. Response is nothing new for Jason Shoe who said that his agency has great support and lots of people who want to participate during the response phase, but no one is around for recovery.

Recovery may be one of the most understaffed and least understood components of an Emergency Management program. Jason identified that his "office spends a lot of time dealing with recovery," particularly financial reimbursements and construction of infrastructure. John Pennington believed that bridging the gap between response and recovery "is where the proverbial wheels fall off the bus." Wade Gayler had a long history of working on recovery issues. This was most evident in observing this work with a local, long-term recovery committee following a wildfire. In addition to addressing their currently unmet needs, he discussed mitigation strategies.

Birkland (2006) said that lessons from disaster mitigation “is incremental and is not particularly salient to a broad range of public officials whose interest lie more in the provision of disaster relief...” (p. 103). Like recovery, mitigation is seldom a focus in what is frequently a response centric industry (Hurtes, 2015). John Pennington said that he looks for someone with an advanced degree to take on both of these tasks. “I don’t want them to be reactionary first responders. I don’t want that tactical first responder running Emergency Management inside an EOC. I want it to be deliberate, thought-provoking, strategic, focusing on larger coordination.” John’s perspective may not be typical in the industry, but it is why this study chose to focus on peer recommended exceptional practitioners.

Perhaps another nontraditional aspect is the final phase. From the U.S. Department of Homeland Security’s perspective, prevention “refers to those capabilities necessary to avoid, prevent, or stop a threatened or actual act of terrorism” (PPD-8, 2011, p. 6). Here prevention is used as a way to focus on the strength of a program and community to cope with a hazard. Jonathan Mills said, “the best response is one that is not needed.” Likewise Ray Wood, when talking about an accident claim, said, “the best claim is the one that never occurred.” The idea of prevention here is on strengthening programs and communities, so that there is no need for response. This may include the reduction of building in high hazard areas, the resilience of businesses, or the strengthening of environmental buffers. Whatever the method, they should be addressed with purpose and thoughtful planning.

4.1.8. Planning (SKA07)

It does not do to leave a live dragon out of your calculations, if you live near him.
J. R. R. Tolkien¹⁸

Many forms of plans exist (Frank, 2006) that are applicable to Emergency Management: business continuity plan (Haddow, Bullock, Coppola, 2011; Watters, 2014), catastrophic plan (Oliver, 2011), comprehensive plan (EMAP, 2010; Lang, 2005, p. 65; Steiner & Butler, 2007), devolution plan (FEMA, 2012), emergency operations plan (Peerbolte, 2011), incident action plan (CIMS, 2014; Erickson, 2006; Lam, Lin, Tsai, & Chiu, 2010), mitigation plan (EMAP, 2010), recovery plan (Philips, 2015), and strategic plan (Canton, 2007). In general, planning serves the purpose of providing direction by defining goals and establishing strategies in an effort to reduce uncertainty. They tend to be goal oriented.

Four supporting codes emerged with 23 occurrences that account for 5% of this domain. Table 39 provides a list the supporting codes and reveals a delineation in time scales. Direct observations account for 65% of total occurrences in this attribute.

4.1.8.1. Description. The complex, multidimensional process undertaken prior to execution in which what, how, when, and by whom questions are addressed in order to advance towards an agreed upon point.

4.1.8.2. Rationale. Planning is pervasive throughout the field of Emergency Management (Waugh & Tierney, 2007). The EPS (2011) addresses the issue 143 separate times in their framework. Planning is the focus of two distinct competencies: **EPS03-plan for emergencies** and **EPS04-plan for business continuity**. FEMA (Cwiak, 2011) includes planning in **CAE-areas of emergency management responsibility**. MCDEM (2011) devotes one key area (**PL-planning**) with four

¹⁸ A quote from *The Hobbit: or There and Back* by J. R. R. Tolkien, 1937. New York, NY: Ballantine Books.

Table 39
Planning Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	13	3	2	1	0	19	82.61	4.35	1.29
City Planning	0	1	1	0	0	2	8.70	0.46	0.14
Emergent Planning	1	0	0	0	0	1	4.35	0.23	0.07
Long Range Planning	1	0	0	0	0	1	4.35	0.23	0.07
Total	15	4	3	1	0	23		5.26	1.56
% of Attribute	65.22	17.39	13.04	4.35	0.00				
% of Domain	3.43	0.92	0.69	0.23	0.00				
% of Total Occurrences	1.01	0.27	0.20	0.07	0.00				

outcomes (**PL01-purposes and objectives of plans are agreed and understood; PL02-plans are developed, written and maintained in accordance with the agreed purpose and objectives; PL03-plans are coordinated and integrated across all levels and partners; and PL04-plans are evaluated and updated**) to planning. They describe it as “the process of comprehensive and integrated planning – development, maintenance, evaluation and review” (p. 23). MCDEM applies all their outcomes to position specific role maps, one of which is a Hazard Analyst/Planner (MCDEM, 2015b).

4.1.8.3. Evidence. Sixty-five percent of this attribute came from observations, but no direct planning was conducted during this time. However, evidence of planning was seen and discussed with most Emergency Management participants. Alma Reed identified the importance of the planning process and the need for skillful plan development and construction. Paul Harris, Kathy Sutton, and Ray Wood used templates to make business continuity planning more uniformed and accessible for their diverse business units. John Pennington and Barb Graff advocated for the hiring of classically trained city or urban planners into Emergency Management based on their understanding of land use, mitigation, and community issues. Barb also saw a benefit for the integration of Emergency Management efforts into city and state comprehensive plans.

4.1.9. Regulatory Environment (SKA08)

I follow three rules: Do the right thing, do the best you can, and always show people you care.

Lou Holtz¹⁹

In every system, there is a seemingly endless litany of criteria in the form of laws, edicts, decrees, statutes, codes, rules, policies, standards, guidelines, and similar such instruments. Knowing how the system works can be an important aspect to successfully negotiating them. The data suggests that knowledge of such instruments (see Table 40) is central to the role of an Emergency Manager and warrants inclusion as an attribute.

Seven supporting codes contribute to this attribute with 22 total occurrences (5%) as see in Table 40. Emergency Managers provided 96% of the occurrences between observations (55%) and interviews (41%)

4.1.9.1. Description. A set of codes, laws, policies, rules, standards, or other such instruments and mechanisms that influence actions. This may also include a culture of such directory administration.

4.1.9.2. Rationale. It is no surprise that a wide range of criteria appear in the literature and the three sets of attributes and outcomes examined in detail here.

FEMA (Cwiak, 2011) specifically addresses these issues in two areas. First in the core area of **CHM-human dimensions**, it states that

[g]raduates should also possess a firm grasp of the statutory basis for the public aspects of emergency management; and, a basic familiarity with, and the ability to address, federal, state, tribal and local policies, legislation, directives and regulations” (p. 8).

Secondly, the supporting area of **CEM-emergency management standards, best practices and comparative practices** accounts for non-regulatory components. The

¹⁹ A quote from L. Holtz (n.d.). Retrieved from <http://www.brainyquote.com/quotes/quotes/l/louholtz629648.html>

Table 40
Regulatory Environment Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	2	3	1	0	0	6	27.27	1.37	0.41
Cost Recovery									
Programs	1	1	0	0	0	2	9.09	0.46	0.14
Credentials	0	1	0	0	0	1	4.55	0.23	0.07
Good Practice Guide	0	1	0	0	0	1	4.55	0.23	0.07
Principles of EM	0	1	0	0	0	1	4.55	0.23	0.07
SOP	6	1	0	0	0	7	31.82	1.60	0.47
Standards	3	1	0	0	0	4	18.18	0.92	0.27
Total	12	9	1	0	0	22		5.03	1.49
% of Attribute	54.55	40.91	4.55	0.00	0.00				
% of Domain	2.75	2.06	0.23	0.00	0.00				
% of Total Occurrences	0.81	0.61	0.07	0.00	0.00				

EPS (2011) integrated legislation, regulations, or guidelines in all 12 of their competencies. Likewise, MCDEM (2011) integrates criteria through their Competency Framework, specifically in the key areas of **RM-relationship management, PL-planning, IP-implementation**, and **CD-capability development**.

Criteria are not solely the domain of government Emergency Managers. The private sector may be more familiar with ASTM and ISO or any one of the other industry specific or national standards²⁰. NGOs may find their own internal guidance documents or the *Humanitarian Charter and Minimum Standards in Humanitarian Response* from The Sphere Project (2014), the *Core Humanitarian Standard on Quality and Accountability* from the Groupe URD, HAP International, People In Aid, and the Sphere Project (2010), or nationally developed guidance like the *Humanitarian Assistance Strategic Guidance* in the UK (2010).

4.1.9.3. Evidence. The expert use and knowledge of various criteria was evident through the data. Lamorna Cooper remarked that to be successful one must work in legislative boundaries. Jason Shoe added that you have to keep up with current standards, credentialing, and accreditation. Kathy Sutton identified the importance of developing process and writing policies and procedures. Alain Normand demonstrated

²⁰ See Australia HB 167:2006, 203:2006, 221:2004, 292:2006, 436:2004; ASIS/BSI BCM Standard; ASIS SPC.1-2009 – Organizational Resilience; AS/NSZ 5050:2010, BS25999, BS25777, BS 31100; BASEL II; BCI Good Practice Guide; The Business Continuity Maturity Model; Circular No. G-139 Managing Business Continuity; COBIT; CSA Z1600; DRI International Professional Practices; External Circular 048 Rules for the Operational Risk Management; FFIEC; FSA Business Continuity Practices Guide; GLBA Gramm Leach Bliley Act; NINRA Guidelines; HIPAA; Hong Kong Monetary Authority; ISO 9000, 9001, 14001, 20000, 22301/313, 27001; ISO/IEC 24762; ITIL v. 3 Service Continuity; Joint Commission; Local Banking Superintendency Requirements; Malaysia Standard 1970; NFPA 1600; NYSE 446/NASD 3500; OSHA; Patriot Act; Prudential Standard APS 232, GPS 222, LPS 232; Sarbanes Oxley; SAS70, SAS70-1; SEC Regulations; SIFMA Business Continuity Practice Guidelines; Singapore Standard SS540/TR19; SSAE16 SOC2; Title IX; US NIST Standards

his understanding of applicable standards when providing an overview of his local program to a senior governmental official during an observed training exercise.

Not all Emergency Managers expressed a heavy reliance of the criteria as described here. Notably, Dan Neely said that knowing the regulations and basic concepts is important; “Not getting hung up on structures but focusing on outcomes” is more important. Mark Mall preferred to focus the efforts of his department on the big picture requirements versus developing detailed and descriptive guidelines for EOC staff to follow.

4.1.10. Roles (SKA09)

Some people want it to happen, some wish it would happen, and others make it happen.

Unknown

“The first step in developing closer working relationships between governmental emergency management and non-governmental, voluntary organizations is to learn more about one another” (FEMA, 2015d, p. 2). MCDEM clearly defines agencies with a mandated and voluntary role in disasters (MCDEM, 2015c). Whether defined in a formal agreement or not, Emergency Managers benefit from knowing the roles of agencies providing assistance before, during, and following a disaster.

SKA09-roles here encompasses an understanding of diverse organizations and/or divisions within an organization and the roles they will or are likely to play in relation to Emergency Management or business continuity. Four supporting codes contribute to this attribute, which includes 23 total occurrences (5% of domain) as seen in Table 41. Observations account for 52% of code occurrences in this attribute.

4.1.10.1. Description. The involvement and participation of organizations, whether regulated, voluntary, or spontaneous, should be understood and respected as a means to enhance disaster prevention, mitigation, response, and recovery.

4.1.10.2. Rationale. So often the phrase “the time to trade business cards is before the disaster” is used in Emergency Management circles to illustrate the importance of knowing others. This extends to knowing who are the organizations and their roles. FEMA (Cwiak, 2011) highlights the integration of stakeholders in the core area of **CAE-areas of emergency management responsibility**. It appears again in the supporting area of **SPN-public, private and nongovernmental organization networking** saying “graduates should appreciate the importance of public, private and nongovernmental organizations, networking to facilitate collaboration, cooperation and

Table 41
Roles Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	9	3	2	6	0	20	86.96	4.58	1.35
ARES & RACES	1	0	0	0	0	1	4.35	0.23	0.07
LEPC	1	0	0	0	0	1	4.35	0.23	0.07
VOAD	1	0	0	0	0	1	4.35	0.23	0.07
Total	12	3	2	6	0	23		5.26	1.56
% of Attribute	52.17	13.04	8.70	26.09	0.00				
% of Domain	2.75	0.69	0.46	1.37	0.00				
% of Total Occurrences	0.81	0.20	0.14	0.41	0.00				

trust” (p. 9). The EPS (2011) integrates an understanding of the roles of internal and external stakeholders widely across nine out of twelve of their competencies. In **EPS09-act effectively across your organisation**, the EPS identifies that Emergency Managers should understand the “role and functions of partner organisations at local, regional and national levels” (EPS, 2011, p. 23). MCDEM (2011) similarly outlines the inclusion and appreciation of partner organizations across all key areas.

4.1.10.3. Evidence. The Emergency Managers throughout this study demonstrated, on a regular basis, their deep understanding of individuals and organizations involved in their collaborative work. When asked directly about this, Michael Stever said that it was his job to facilitate the process by knowing all the players, their roles and positions, and their relationships with other players. Partner agency representatives also picked up on this. Cheryl Jamieson commented that Emergency Managers reassure emergency services organizations that “you are not the loader of the gun or the fire hose or the one that has that knowledge.” She went on to describe the role of an exceptional Emergency Manager as a “support mechanism” able to provide information and resources to police, fire, paramedics, and the like. John Pennington, speaking about an Emergency Manager he works with, said “her greatest strength from a policy standpoint lies at understanding the role of the federal government as it develops policies...”

Public participants also vocalized the importance of understanding roles. They expected “clear understanding of roles,” an “understanding their [Emergency Manager’s] roles and other roles,” a “delineation of roles,” and an understanding of the roles of others like voluntary organizations. Julia Acheson added that Emergency Managers generally need to know what people are going to be doing.

4.1.11. Technology (SKA10)

The technology revolution has resulted in more than just innovation, but also adjustments in social interactions. The increase in technology, especially communications, provides more information for decision-making; this should be a positive impact if it were not for inaccurate, incomplete or misdirected information.

John Pine²¹

Quarantelli (1997a) offers a caution that the solution to all problems is not a technological fix. Having said that, the integration of technology was evident in all the Emergency Management offices included in this study. General integration and adoption issues, as well as specific references to Geographic Information Systems (GIS), to social media applications, to radio systems were included as listed in Table 42.

Five supporting codes contribute to this attribute with 27 code occurrences (6% of domain). Of the supporting codes, GIS (19%) and software/online applications (22%) were specifically identified, largely from observations (70%).

4.1.11.1. Description. The practical use of a machine, method, piece of equipment, or software to accomplish a task.

4.1.11.2. Rationale. Discussions about the use of technologies in disasters are nothing new. Carter, Heath, Hovmork, and Sax (1989) wrote about using satellite technologies for 30 years “for the improvement of safety, for disaster prevention and for disaster and distress response” (p. 229). Drabek (1991b) writes about how microcomputers “increased response capacity” (p. 191) and Houston et al. (2014) discusses social media. The literature is ripe with other examples.

FEMA (Cwiak, 2011) integrates technological aspects into three areas. First it is alluded to in **FEC-effective communications** saying that students should be able to

²¹ A quote from Research Needs to Support the Emergency Manager of the Future by J. C. Pine, 2004. *Journal of Homeland Security and Emergency Management*, 1(1). doi: 10.2202/1547-7355.1012 (Article 3)

Table 42
Technology Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	7	3	2	2	0	14	51.85	3.20	0.95
GIS	5	0	0	0	0	5	18.52	1.14	0.34
Radio Systems	1	0	0	0	0	1	3.70	0.23	0.07
Social Media Applications	0	0	0	0	1	1	3.70	0.23	0.07
Software/Online Applications	6	0	0	0	0	6	22.22	1.37	0.41
Total	19	3	2	2	1	27		6.18	1.83
% of Attribute	70.37	11.11	7.41	7.41	3.70				
% of Domain	4.35	0.69	0.46	0.46	0.23				
% of Total Occurrences	1.29	0.20	0.14	0.14	0.07				

demonstrate the “effective use of current presentation tools and techniques” (p. 7). Secondly, “[g]raduates should exhibit an appreciation of the evolutionary nature of Emergency Management including current societal and technological changes” (p. 9) as described in **CEM-emergency management standards, best practices and comparative practices**. Finally, the entire outcome of **SCE-current and emerging technologies** is devoted to this area. Likewise, the EPS (2011) dedicates the competency of **EPS12-manage compute generated data to support decision making** specifically to technology. It is also represented in **EPS06-communicate with the community to enhance resilience** in several forms. MCEDM (2011) addresses technological issues indirectly through several competencies in their framework. It can be seen in the key areas of **IM-information management, IP-implementation, and CM-communications**.

4.1.11.3. Evidence. Technological issues arose most commonly amongst the Emergency Managers, with only two references to it from partner agencies and two from the public. Jason Shoe represented several Emergency Managers, saying that it was critical to keep up with technology. Harper Huntley added how important it is to integrate new technologies. Specifically, incident management tools, like WebEOC and the Emergency Management Information System, arose more times than any other area. Mark Mall was focused on a social media application and web design during my observations. Knowledge of radio systems was identified in two Emergency Management offices. The public also recognized radio communications systems as well. Finally, Alain Normand demonstrated the integration of GIS systems in situational awareness when he coordinated with his city’s information technology department to develop a real-time map with geocoded disaster Tweets.

4.2. General Knowledge Areas (GKA)

Time spent in sharpening the axe may well be spared from swinging it.

Josiah Strong²²

Emergency Managers in this study demonstrate an understanding of and proficiency in more than just discipline specific areas as discussed in the previous domain. Often referred to as transferrable skills as discussed in Chapter 2, these attributes are applicable to a wide range of academic disciplines and career fields.

²² A quote from *The Times and Young Men* by J. Strong, 1901. Retrieved from <https://books.google.com/books?id=VUYNxK7rYsAC&q=sharpening#v=onepage&q&f=false>

Table 43
General Knowledge Area Domain of Attributes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Domain	% of Total Occurrences
Communication	51	49	28	43	0	171	33.27	11.57
Facilitation	6	7	0	0	1	14	2.72	0.95
Persuasion	2	8	2	0	0	12	2.33	0.81
Political and Administrative Intelligence	13	30	5	1	1	50	9.73	3.38
Judgment	8	32	2	17	1	60	11.67	4.06
Leadership	10	19	16	21	1	67	13.04	4.53
Management Skills	48	29	12	50	1	140	27.24	9.47
Total	138	174	65	132	5	514		34.78
% of Domain	26.85	33.85	12.65	25.68	0.97			
% of Total Occurrences	9.34	11.77	4.40	8.93	0.34			

4.2.1. Communication (GKA01)

Let us make a special effort to learn to stop communicating with one another, so that we can have some conversation.

*Judith Martin*²³

The importance (Fernaldz & Merzer, 2003; Mileti & Fitzpatrick, 1992; Reynolds & Seeger, 2005) and failure (Carley & Harrauld, 1997; Col, 2007; Milsten, 2000) of communications in Emergency Management is often cited. Unsurprisingly, communications leads in the **GKA-general knowledge areas** domain as the top-ranked attribute. It represents the second most common data point at 12% across all attributes and 33% in its domain. With the diversity of items included in the **SKA-specific knowledge area** domain of **SKA06-emergency management skills, SKA01-communications** represents the most common single detention attribute. The data shows that the **GKA01-communication** attribute includes the importance of communication, messages, stakeholders, means, and pathways as represented in Table 44.

4.2.1.1. Description. The active process of constructing, transmitting, receiving, interpreting, and comprehending auditory, visual, and kinetic inputs in a way that conveys meaning. Communication is largely social and should recognize cultural differences and sensitivities.

4.2.1.2. Rationale. In disasters, communication challenges are complex and difficult (Dougall, Horsley, & McLisky, 2008; Pechta, Brandenburg, & Weeger, 2010), and few agencies devote adequate resources to the task (Horsley, 2009). Internal and external stakeholders need to be accounted for with each group having a channel to receiving and delivering messages (Pechta et al., 2010). Reviews of disasters

²³ A quote from *Miss Manners' Guide to Excruciatingly Correct Behavior* by J. Martin, 1983. New York, NY: Atheneum.

Table 44

Communication Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	8	10	8	11	0	37	21.64	7.20	2.50
Advise	0	0	0	1	0	1	0.58	0.19	0.07
Conflict Management	0	0	0	2	0	2	1.17	0.39	0.14
Cultural Awareness	2	0	0	0	0	2	1.17	0.39	0.14
Information Sharing	5	5	7	14	0	31	18.13	6.03	2.10
Liaise	0	1	0	2	0	3	1.75	0.58	0.20
Listen	3	5	2	2	0	12	7.02	2.33	0.81
Present Information	6	13	1	0	0	20	11.70	3.89	1.35
Public Affairs	1	0	0	0	0	1	0.58	0.19	0.07
Public Education	7	2	3	3	0	15	8.77	2.92	1.01
Read People	0	4	0	0	0	4	2.34	0.78	0.27
Social Media	3	0	0	0	0	3	1.75	0.58	0.20
Straight Shooter	0	0	2	0	0	2	1.17	0.39	0.14
Talk with Public	0	0	0	2	0	2	1.17	0.39	0.14
Training	14	5	5	6	0	30	17.54	5.84	2.03
Write	2	4	0	0	0	6	3.51	1.17	0.41
Total	51	49	28	43	0	171		33.27	11.57
% of Attribute	29.82	28.65	16.37	25.15	0.00				
% of Domain	9.92	9.53	5.45	8.37	0.00				
% of Total Occurrences	3.45	3.32	1.89	2.91	0.00				

(U.S. House of Representatives, 2006; Milsten, 2000) and disaster exercises (Faith, Jackson, & Willis, 2011; Lerner & Bertram, 2014) cite communications among the most common failures.

Employers, from across all industries, cite oral and written communications among the top required skills for graduates (Archer & Davison, 2008; Australian Industry Group, 2008; Business Council of Australia, 2006a, 2006b; Hernandez-March, Martin del Peso, & Leguey, 2009). It is also reported that university graduates lack adequate communication skills (Archer & Davison, 2008; Business Council of Australia, 2006a, 2006b). The field of Emergency Management recognizes the role communication plays and addresses it through all three matrixes discussed thus far in this chapter.

FEMA (Cwiak, 2011) dedicates one entire outcome to **FEC-effective communications**, saying that graduates should “demonstrate a high level of verbal and written communication abilities” (p. 7) that includes interpersonal communications, public speaking skills, and the use of presentation aids. Evidence of communications also appears in other outcomes such as **CAP-awareness and promotion of emergency management** as well as **SPA-public administration and community planning and developments** and **SPN-public, private and nongovernmental organization networking**. In the EPS Core Competences Framework, **EPS06-communicate with the community to enhance resilience** is solely dedicated to communications. The EPS (2011) also uses communications as a cross-cutting attribute as it is identified in all twelve. Like FEMA and EPS, MCDEM recognizes the importance of communications and dedicates one of the key areas for **CM-communications** with four separate competencies. MCDEM integrates components of communication through an additional

eight competencies. Specifically, they include a focus on listening by identifying a competency indicator for all Emergency Management practitioners, saying “listens actively and is receptive to alternative viewpoints” (MCDEM, 2011, p. 42).

4.2.1.3. Evidence. Study participants highlighted the importance of listening to diverse audiences. Jessica Holliday added that an effective Emergency Manager is one who listens and “respects the opinions of others.” Dan Neely said that to be successful, one must listen first in order to identify needs and problems before generating any solutions. In addition to listening, several other characteristics of communication emerged from the study such as methods, content, and information on audiences.

Alain Normand believed that one characteristic of success is being able to read people. Jonathan Mills said that it is important to “effectively make a point.” Dan Neely used models and graphics when communicating with staff, partner organizations, and the public to clarify his message. Erin Vast summed it up saying that he expects officials to “communicate as well as they can, simply, directly, and respectfully.”

Study participants were observed using and commented on the importance of written communications. Jonathan Mills said that it was important to respond to emails while Alma Reed highlighted the importance of distributing daily and weekly situation reports. Dan Neely provided weekly reports to his team and supervisors to convey progress of current initiatives. Paul Harris used a scorecard when communicating with senior managers about progress in his area. Mark Mall elaborated saying that good writing skills were required in order to be specific to account for any legal or policy implications.

The other method study participants illuminated was the appropriate use of oral communications. It has already been discussed the importance of listening with respect, and Michael Nelson said that there needs to be two-way dialogue. When asked what makes someone an exceptional Emergency Manager, he pointed out his ability and willingness to pick up the telephone and discuss issues. Instead of emailing back and forth for hours or days, a simple conversation can resolve the issue with less ambiguity and in a shorter time. Michael's point was observed on multiple occasions where Emergency Managers like Jim Buchanan, Kevin Doak, Wade Gayler, Michael Stever, and Ray Wood would prefer meeting in person or over the telephone to discuss a topic than only sending emails. Michael Nelson pointed out that email is important to confirm what was discussed as a way of documenting any decisions that were made.

Emergency Managers used more than just the telephone for oral communications. They conducted many meetings, presentations, training, and educational sessions for staff, governmental officials, and the public. Chris Raine provided educational sessions on local hazards and Robert Howard trained staff on emergency procedures and equipment. Kathy Sutton states that an exceptional Emergency Manager needs to be able to do all these to be successful.

Training is closely linked with the attribute of **GKA01-communication** as it was observed with several Emergency Managers and frequently came up in conversations. Mark Mall provided several topics and avenues for the responders and students at his university. Partners like Cheryl Jamieson praised the efforts of Alain Normand in educating the public. Community members like Brian Regrut and Andrew Sorenson expected Emergency Managers to train them what to expect and what to do in a disaster. The public also expect Emergency Managers to be well-trained and to follow that training.

A few Emergency Managers in this study were observed struggling in communicating their ideas as effectively as they may have wished. This happened on four different occasions with four different Emergency Managers. Their efforts may have been improved if they spoke clearly, were deliberate in their messages, attentively listened and summarized what was heard, and reviewed visual aids. This is offered, not as a criticism to those Emergency Managers but as a caution that an intended message may be lost as the result of such actions. The key messages should be clear to participants and not distracted by other means. Mike Stever said that communication for public education is intended to influence behavior.

4.2.2. Facilitation (GKA02)

The new leader is a facilitator, not an order giver.

John Naisbitt²⁴

Given the attributes discussed previously, with special emphasis on **SKA03-community oriented ethos**, **SKA06-emergency management skill areas**, **SKA08-planning**, and **SKA10-roles**, it should be clear to the reader that Emergency Management is a field reliant on the efforts of many disciplines working together. Cheryl Jamieson commented about an Emergency Management partner that his true talent lies in his ability to bring the right kinds of people to the party. Emergency Management is not about having all the answers, but rather supporting others that have the technical knowledge, authority, and resources to get the job done.

GKA02-facilitation is represented in this study by 14 total occurrences (3% of domain) organized into three supporting codes. Table 45 illustrates that 86% of this attribute refers to nonspecific references to facilitation and 93% comes directly from Emergency Management participant observations and interviews.

4.2.2.1. Description. Working with people to assist in a process of advancement or moving forward of ideas or initiatives. Facilitation often focuses on the process and assumes a neutral position, leaving advocacy or tactics to others.

4.2.2.2. Rationale. FEMA (Cwiak, 2011) exemplifies the need for facilitation saying that essential stakeholders like law enforcement, medical, fire, public works, and others should be integrated in order to “create a community framework that reduces vulnerability to hazards and enhances the ability to cope with disasters” (p. 8) as part of the **CAE-areas of emergency management responsibility** outcome.

²⁴ A quote from *Megatrends: Ten New Directions Transforming our Lives* by J. Naisbitt, 1982. New York, NY: Warner Books.

Table 45
Facilitation Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	6	5	0	0	1	12	85.71	2.33	0.81
Negotiation Skills	0	1	0	0	0	1	7.14	0.19	0.07
Persistence	0	1	0	0	0	1	7.14	0.19	0.07
Total	6	7	0	0	1	14		2.72	0.95
% of Attribute	42.86	50.00	0.00	0.00	7.14				
% of Domain	1.17	1.36	0.00	0.00	0.19				
% of Total Occurrences	0.41	0.47	0.00	0.00	0.07				

Emergency Management offices often have few physical resources and as such play more of a facilitation role based on relationships with other responders. Bringing stakeholders together is supported by the Committee on Private-Public Sector Collaboration to Enhance Community Disaster Resilience (2011) report, echoed by Tocqueville (1935/2000) saying “all fall into impotence if they do not learn to aid each other freely” (p. 490). FEMA (Cwiak, 2011) goes on to add that “graduates should appreciate the importance of public, private, and nongovernmental organizations, networking to facilitate collaboration, coordination and trust” in **SPN-public, private and nongovernmental organization networking** (p. 9). The EPS (2011) also includes specific and generalized language that supports facilitation. It is specifically identified in **EPS11-debrief after an emergency, exercise or other activity** in the knowledge, skills, and performance criteria sections. Generally, facilitation can be seen underpinning the competencies of **EPS09-act effectively across your organization** and **EPS10-cooperating with other organizations**. Likewise, MCDEM (2011) identifies the importance of facilitation in working with people. Specific language is included in the competencies, **RM02-established relationships are actively managed and sustained** and **IP03-human resources are managed in order to achieve maximum effectiveness**.

4.2.2.3. Evidence. From the very first participant, the issue of facilitation arose. Michael Stever talked about not being a fatality management expert but having responsibility for facilitating the process within his State Health Department. Barb Graff said an Emergency Manager needs “to be able to facilitate complex processes, including processes that have never existed before.” The international business continuity consultant, Kin Lock, said that it was more important to understand the process than to

know the specifics about the businesses that he works with. Alain Normand and Alma Reed both expressed the need to bring diverse people together to facilitate a common goal. Alain said that Emergency Managers need “charisma” to build relationships and encourage collaboration. Drew Leemon said it was important in his role as the Director of Risk Management to work as a facilitator with technical experts in a crisis. Mark Mall said he was able to garner more support by facilitating a process of coordination by using Unified Command for their many events and incidents.

4.2.3. Persuasion (GKA03)

Reasoning will never make a Man correct an ill Opinion, which by Reasoning he never acquired.

*Jonathan Swift*²⁵

Following on from **GKA02-facilitation**, there is a delicate balance when discussing issues of **GKA03-persuasion**. This attribute addresses the influencing of citizens to prepare, of managers to maintain awareness, and of policy makers to invest in Emergency Management programs.

This attribute encompasses just one supporting code as a generalized or otherwise unspecified reference. It accounts for 10% of the domain with 12 total occurrences. *Table 46* provides the distributive sources of codes representing observations (17%), interviews with Emergency Managers (60%), partner agency interviews (10%), and public expectations (2%).

4.2.3.1. Description. To prevail upon others to accept a point of view, adopt a belief, or induce behaviors by means of argument or reason.

4.2.3.2. Rationale. Persuasive language is found in the EPS' *Core Competences Framework* (2011) primarily in three areas, **EPS04-plan for business continuity**, **EPS08-manage the recovery from emergencies**, and **EPS09-act effectively across your organization**. EPS identifies skills associated with many of their competencies and, in two instances, uses the term, influencing. In a further section, the EPS defines behaviors and attitudes to include "influence key staff at all levels of the

²⁵ A quote from *A Letter to a Young Gentleman, Lately Entere'd Into Holy Orders by a Person of Quality* [Portable Digital Format version] by J. Swift, 1721. Retrieved from <https://books.google.com/books?id=fP1bAAAAQAAJ&q=%22Reasoning+he%22#v=onepage&q&f=false>

Table 46
Persuasion Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	2	8	2	0	0	12	100	2.33	0.81
Total	2	8	2	0	0	12		2.33	0.81
% of Attribute	16.67	66.67	16.67	0.00	0.00				
% of Domain	0.39	1.56	0.39	0.00	0.00				
% of Total Occurrences	0.14	0.54	0.14	0.00	0.00				

organization” (p. 31), “influence partner organizations” (p. 31), and “play a direct part in influencing your organization’s strategic direction “ (p. 30). MCDEM uses language even more subtle than that of the EPS, frequently referring to the role of Emergency Managers at various levels as promoting actions. According to the Competency Framework (MCDEM, 2011), practitioners should “promote information management best practices” (p. 17), “promote awareness of hazards and risk to partners and community” (p. 20), and “promote risk management principles to key individuals, partner organizations and communities” (p. 21). In addition, they should “promote professional development” (p. 36) and “promote alignment” of communications between partners and the community (p. 32).

4.2.3.3. Evidence. Participant data from six Emergency Managers and one partner agency representative suggested the inclusion of a direct influential or persuasive attribute. When asked what someone needs to be successful at their job, Sandra Minser said that they need to persuade people to prepare. Zoey Byrne said they need persuasion skills when communicating with senior managers to maintain emergency awareness. Barb Graff saw the need to influence politicians and stakeholders while Lynn Gross sold ideas to people in ways that make them believe it was their idea. Dan Neely also talked about selling the concept of resilience. These Emergency Managers used interactions and language to build support. Mark Mall did it by “plant[ing] seeds” with his stakeholders. Susan Tarry, referring to an Emergency Management colleague, described his skill in redirecting conversations that don’t alienate, “bringing people along.” She called it “team building at every interactional level. Every conversation for him is an opportunity to use his team building skills and he does it. He does it so well you don’t even know.”

4.2.4. Political and Administrative Intelligence (GKA04)

Now the worst part of the punishment is that he who refuses to rule is liable to be ruled by one who is worse than himself. And the fear of this, as I conceive, induces the good to take office, not because they would, but because they cannot help—not under the idea that they are going to have any benefit or enjoyment themselves, but as a necessity, and because they are not able to commit the task of ruling to any one who is better than themselves, or indeed as good.

Plato²⁶

Emergency Management is framed in a political system (Sylves, 2008). At the local, sub-national, and national levels, disasters affect people and require a combination of technological, social, and political interventions. Increased community, government, and political expectations are ever emerging, “requiring emergency managers to operate in a more open and political environment” (Owen & Hayes, 2014, p. 11). Understanding and navigating such a complex system is salient to the success of any program.

Data from study participants was grouped into six supporting codes that contribute to this attribute. Table 47 reveals 50 total occurrences that account for 10% of this domain. Sixty percent comes from interviews with Emergency Managers and an additional 26% from observations.

4.2.4.1. Description. Understanding and successfully navigating an institutional system towards a mutually beneficial and community supported end.

4.2.4.2. Rationale. Locating the legal foundation of Emergency Management activities constitutes one aspect of this multidimensional attribute. Whilst critical, understanding the legal framework is simply a matter of knowledge.

²⁶ A quote from *The Republic* by Plato. (n.d.). B Jowett, Trans. Retrieved from <http://www.gutenberg.org/files/1497/1497-h/1497-h.htm>

Table 47

Political and Administrative Intelligence Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Legal Foundation	2	4	0	0	0	6	12.00	1.17	0.41
Pick Your Battles	0	3	0	0	0	3	6.00	0.58	0.20
Political Process	1	12	3	1	0	17	34.00	3.31	1.15
Political Savvy	10	9	1	0	1	21	42.00	4.09	1.42
Public Administration	0	2	1	0	0	3	6.00	0.58	0.20
Legal Foundation	2	4	0	0	0	6	12.00	1.17	0.41
Total	13	30	5	1	1	50		9.73	3.38
% of Attribute	26.00	60.00	10.00	2.00	2.00				
% of Domain	2.53	5.84	0.97	0.19	0.19				
% of Total Occurrences	0.88	2.03	0.34	0.07	0.07				

GKA04-political and administrative intelligence here reflects this knowledge and includes the skills and abilities to use that information in timely and strategic ways while successfully navigating an institutional system.

The Emergency Planning Society recognizes the need to understand legal frameworks in the **EPS01-theories and concepts in Emergency Management** and **EPS06-communicate with the community to enhance resilience** competency (EPS, 2011). Likewise, MCDEM (2011) identifies two **PL-planning** competencies (PL02 and PL04) saying the supervisory or experienced Emergency Managers should “appl[y] knowledge to relevant legislation” (p. 24) and “evaluate the currency of the plan against changes in legislation” (p. 25). Knowledge of legislation is also found in Implementation (IP01) saying that supervisory or experienced staff should “demonstrate understanding of the legislative environment for CDEM in New Zealand” (p. 27). FEMA (Cwiak, 2011) supports legal understanding in the core areas of **CHM-human dimensions** (p. 8) and **CFD-fiscal dimensions of emergency management** (p. 9).

GKA04-political and administrative intelligence is more than just having an understanding of legal frameworks. Responding to Hurricane Katrina, Michael Brown (2001) said that “we made heroes out of fools; we did our job without playing a political game” (Chapter 10, Paragraph 126). Brown’s dismissal as Director of FEMA may be a strong indication that Emergency Management is a political endeavor. The Emergency Planning Society in the **EPS09-act effectively across your organization** competency points out the importance of understanding the “potential liabilities” (EPS, 2011, p. 31) and constraints. FEMA (Cwiak, 2011) describes it as “possess[ing] a firm grasp of the political realities involved in working within inter- and intra-governmental systems” (p.

9). MCDEM (2011) stresses leadership that “steers negotiations successfully through complex issues” (p. 41) at all levels and across all functions and the importance of communication skills “to negotiate viewpoints” (p. 31).

4.2.4.3. Evidence. Several Emergency Managers identified the importance of legislative knowledge while even more demonstrated and discussed the political aptitude their job requires. Alain Normand said that success depends on “evaluating the consequences of your actions,” and Jim Buchanan identified that it is important to recognize when to push an agenda forward and when to recognize that you will not win. Many commented on the significance of understanding the political process and how to successfully navigate such a system. This was represented with Emergency Managers from the local level like Jim Buchanan, Lamorna Cooper from Timaru District Council, Mark Mall from a US-based university, those with regional responsibilities like Perry Cogburyn and Steven Weber from Virginia Department of Transportation, Dan Neely from Wellington Regional Emergency Management Office, the private sector like Kathy Sutton from an international aerospace company, Kin Lock the international business continuity consultant, and members of the public. With such wide representation of practitioners and the frequency that this issue arose, it is clear that governance issues play an important part in educating future Emergency Managers.

4.2.5. Cognition (GKA05)

Most thought-provoking is that we are still not thinking – not even yet, although the state of the world is becoming constantly more thought-provoking.

*Martin Heidegger*²⁷

Richardson (2012) cites a survey of CEOs stating that “managing the growing complexity of the world” is the most crucial factor for future success. For Flynn (2009) the “ability to provide on-the-spot solutions to problems we have never encountered before, problems not solvable by mechanical application of a learned method, and often requiring us to create alternative solutions from which we must choose” (p. 53) is what he calls mental acuity.

Based in part on the work of Ulric Neisser who synthesized his work, along with the earlier work of others, *Cognitive Psychology* (1967) includes a wide range of topics. Rooted in the psychological literature, cognition is associated with areas of attention (i.e. selective attention, divided attention, pattern recognition, object recognition, and subliminal perception), perception (i.e. gathering and interpreting stimuli), accumulation (i.e. recognizing, conceiving, and reasoning), memory (i.e. encoding, storing, and retrieving), language (i.e. acquisition, use, and processing), thinking (i.e. problem solving, decision making, mental imagery, and logic), and knowledge representation (i.e. storage, access, and categorization) (Darity, 2008). Whatever you call it, there are many components, each having an extensive body of research. The discussion here will focus on those components that were revealed during this study.

Attributes related to cognition represent 4% of total occurrences with information synthesis as the common data point with 2% of the domain. As represented in *Table 48*,

²⁷ A quote from *Discourse on Thinking: Memorial Address* by M. Heidegger, 1966, p 47. New York, NY: Harper & Row.

Table 48
Cognition Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	0	0	0	1	0	1	1.67	0.19	0.07
Adaptable	0	1	0	3	0	4	6.67	0.78	0.27
Analysis	0	0	0	0	1	1	1.67	0.19	0.07
Common Sense	0	2	0	0	0	2	3.33	0.39	0.14
Critical Thinking	4	1	0	1	0	6	10.00	1.17	0.41
Decision Making	0	4	0	4	0	8	13.33	1.56	0.54
Incident Analysis	1	1	0	0	0	2	3.33	0.39	0.14
Information Synthesis	1	6	0	2	0	9	15.00	1.75	0.61
Inquisitive	0	1	0	0	0	1	1.67	0.19	0.07
Intuition	0	2	0	1	0	3	5.00	0.58	0.20
Logical	1	2	0	1	0	4	6.67	0.78	0.27
Perceptive	0	2	0	0	0	2	3.33	0.39	0.14
Practical	0	0	1	0	0	1	1.67	0.19	0.07
Pragmatic	0	0	1	0	0	1	1.67	0.19	0.07
Prioritize	0	4	0	2	0	6	10.00	1.17	0.41
Question	1	1	0	0	0	2	3.33	0.39	0.14
Rational	0	0	0	2	0	2	3.33	0.39	0.14
Resourceful	0	1	0	0	0	1	1.67	0.19	0.07
Think Outside the Square	0	4	0	0	0	4	6.67	0.78	0.27
Total	8	32	2	17	1	60		11.67	4.06
% of Attribute	13.33	53.33	3.33	28.33	1.67				
% of Domain	1.56	6.23	0.39	3.31	0.19				
% of Total Occurrences	0.54	2.17	0.14	1.15	0.07				

this study has identified the adaptability, analysis, common sense, critical thinking, decision making, information synthesis, inquisitively, intuition, logic, perception, practicality, pragmatism, prioritization, questioning, rationality, resourcefulness, and thinking outside the square as the predominant attributes of cognition as a whole.

4.2.5.1. Description. The process of perceiving, recognizing, conceiving, reasoning, and judging something as to know it.

4.2.5.2. Rationale. A review of critical thinking published by Peerbolte and Collins (2013) found that cumulatively and in all of the five indicators of inference, recognition of assumptions, deduction, interpretation, and evaluation of arguments, Emergency Managers scored significantly ($p = 0.05$) below a data set of peer-level managers. The Principles of Emergency Management (FEMA, 2007) explicitly says that Emergency Managers “use creative and innovative approaches in solving disaster challenge[s]” (p. 14) and that they should “anticipate future disasters” (p. 5), all of which requires skills in a variety of areas of cognition. Decision making is integrated into the EPS’s (2011) competencies of **EPS09-act effectively across your organization** and **EPS10-cooperate with other organizations**. It is also prevalent in MCDEM’s (2011) **LD03-leadership is demonstrated through strategic decision making that influences others and drives change** at the supervisory or experienced level.

4.2.5.3. Evidence. Barb Graff reflected and said that Emergency Managers “need to be able to facilitate complex processes. Including processes that have never existed before.” She summed up many of the observations and comments from participants; however, because cognition has so many diverse aspects, this section will look at several of the identified attributes separately.

What is referred to here as adaptability, public participant Kerry Field, described as the ability to “move along with the situation at hand.” Another CERT member, John F. Clark said Emergency Managers need to be like MacGyver (a reference to the 1985-1992 television series) who has been described as having an ‘almost infinite scientific resourcefulness’ (www.imdb.com/title/tt0088559/). Psychologist Jean Piaget (1966) referred to this kind of adaptability as accommodation while J. P. Guilford (1967) was credited with developing the concept of divergent thinking, which largely comprises creativity with fluency, flexibility, originality, and elaboration. Convergent thinking, also coined by Guilford (1976), addresses the process of narrowing possible solutions or ground testing them for situational applicability. Regardless of the approach, and there are many; thinking, like education, is about knowledge, reason, and truth (Fairfield, 2009).

One aspect expressed by members of the public and Emergency Managers was the ability to understand contributing factors and causal effects. Such an analysis can be traced to the five W’s (When? Where? Whom? What? Why?) (Trumbull, 1888. p. 120), Sakichi Toyoda’s 5 Why’s (Ono, 1988), root cause analysis (see Anderson & Fagerhaug, 2000; Duggett, 2004), and system theory (von Bertalanffy, 1950).

Having the information and being able to synthesize that information are two different things. Bloom (1956) defined synthesis as “the putting together of elements and parts as to form a whole” (p. 206). This may be most evident in the role of Emergency Managers during times of response and recovery, but Jim Buchanan demonstrated this when he was able to take technical information from an urgent phone call and develop that into a funding proposal that was submitted for consideration within a few hours. This is consistent with responses given by public

participant Tom Connelly who said that Emergency Managers should be able to process information and act on it quickly. Emergency Managers indicated that to be successful someone needs to be able to take in a lot of information from a variety of sources, synthesize it, prioritize that information, and act on it.

Participants expressed that Emergency Managers should be willing to bring in technical experts, be willing to move forward with conflicting or incomplete information, and be willing and able to make decisions. The public participant, John Lee, expressed the attitude of Emergency Managers saying, “they are not interested in being in a position of power. They are more interested in making the decisions for the greatest need at that moment.” While this may come through experience, Mark Mall stated that education has a role to play in providing a background.

4.2.6. Leadership (GKA06)

Expedition leadership is situationally appropriate action that directs or guides your group to set and achieve goals. Great leaders create an environment that inspires individuals and groups to achieve their full potential.

National Outdoor Leadership School²⁸

The study of leadership has a long history including diverse areas that include traits and attributes theories (Kirkpatrick & Locke, 1991; Lord, de Vader, & Alliger, 1986; Stogdill, 1948), behavioral theories (Chemers, 1997; Hemphill, 1950), contingency and situational theories (Fiedler, 1967; House, 1971; Vroom & Yetton, 1973), transactional theories (Hollander & Offermann, 1990), new genre theories (Avolio, Bass, Walumbwa, & Zhu, 2004), and many others. The intention of this section is not to summarize the vast body of research on the topic of leadership or to discuss their merits. Leadership here is used as an overarching domain for related attributes observed and expressed by study participants.

Twelve supporting codes with 67 occurrences account for 13% of this domain. Table 49 provides a list of all supporting codes and reveals a wide distribution of sources, observations (15%), Emergency Management interviews (28%), partners (24%), and public (31%).

4.2.6.1. Description. “Leadership is a process of social influence in which one person is able to enlist the aid and support of others in the accomplishment of a common task” (Chemers, 1997, p. 1).

4.2.6.2. Rationale. Of the three attributes and outcome documents examined in this chapter, MCDEM has the strongest language promoting leadership. It

²⁸ A quote from the National Outdoor Leadership School retrieved from <http://www.nols.edu/about/leadership/index.shtml>

Table 49
Leadership Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Develop Strategy	1	0	0	1	0	2	2.99	0.39	0.14
Develops Concepts & Ideas	0	0	1	0	0	1	1.49	0.19	0.07
Forward Looking & Thinking	0	3	2	0	0	5	7.46	0.97	0.34
Goal Setting	0	0	1	0	0	1	1.49	0.19	0.07
Goals	1	1	1	3	0	6	8.96	1.17	0.41
Inspiring	0	0	0	2	0	2	2.99	0.39	0.14
Leader	0	1	2	8	0	11	16.42	2.14	0.74
Leadership	0	1	0	2	1	4	5.97	0.78	0.27
Respect	2	3	5	4	0	14	20.90	2.72	0.95
Strategic Planning	5	6	1	0	0	12	17.91	2.33	0.81
Tone	0	1	0	0	0	1	1.49	0.19	0.07
Vision	1	3	3	1	0	8	11.94	1.56	0.54
Total	10	19	16	21	1	67		13.04	4.53
% of Attribute	14.93	28.36	23.88	31.34	1.49				
% of Domain	1.95	3.70	3.11	4.09	0.19				
% of Total Occurrences	0.68	1.29	1.08	1.42	0.07				

is granted a key area with four identified competencies where leadership is defined as “the ability to empower and influence others and drive change at all levels and across all functions of CDEM” and is applicable for all individuals regardless of their role (MCDEM, 2011, p. 40). The EPS (2011) addresses leadership as a needed skill in multiple competencies but primarily refers to management related issues in their text. FEMA combines leadership, management, and decision-making saying that “graduates should appreciate the value of leadership and management skills as well as when and how they should be applied...” (Cwiak, 2011, p. 7). While leadership and management may be closely linked, the focus of this attribute is on one’s ability to socially influence another willing person to assist in a common goal. Management is addressed in the next attribute.

4.2.6.3. Evidence. Participants identified that Emergency Managers should “set the environment” and be “someone who can get people to work together” by inspiring them. The term “respect” was identified by Emergency Managers as an essential quality and was observed in interactions between Emergency Managers and their co-workers. Setting a vision and goals are skills identified by public, partner agency representatives, and Emergency Management participants themselves. In general, they referred to the willingness and ability of a leader to develop an accepted vision and goals. Participants further identified that a leader should be able to develop strategies for anticipating concerns and issues.

4.2.7. Management (GKA07)

Our control of the outer world is limited, temporary and often, illusory.

Matthieu Ricard²⁹

Aspects of management date back to 2250 B.C. in Babylonian times (Wren, 2005), but Sun Tzu (514) is credited with some of the earliest writings on strategic management (Sollosy, 2013). The division of labor has been a common theme in management and has been raised by Mencius (372-289 B.C.), Plato (427-347 B.C.), and Aristotle (384-322 B.C.) before Henry Ford's (1863-1947) assembly line. The Industrial Revolution accelerated the interest in and study of management and has seen theoretical evolutions that include Daniel McCallum's Information Management (Dale, 1959), Frederick Taylor's Scientific Management (Wrege, Greenwood, & Greenwood, 1997), Max Weber's Bureaucratic Approach (Brewster & Mayrhofer, 2012), the Human Relations Movement largely associated with Elton Mayo (Griffin, Landy, & Mayocchi, 2002), Kurt Lewis as the "father of Organizational Development" (Vitucci, 1996), Servant Leadership (Greenleaf, 1977), Action Learning (Revens, 1980), and Learning Organizations described by Peter Senge (1990) which includes System Thinking (see Wren, 2005; Williams, 2015).

Without getting into the theoretical debates that have failed to provide a single and concise definition, management, for the purposes of this attribute, is generally considered to be the act of controlling decisions and resources while largely focusing on the realization of defined goals. It is concerned with effective processes such as planning, organizing, directing, and controlling (Williams, 2015), as well as the efficient use of resources such as human, financial, and material. Nineteen supporting codes

²⁹ A quote from M. Ricard from the February 2004 Ted Conference held in Monterey, California. A recording of the talk is available from <http://www.ted.com>.

Table 50
Management Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	1	4	1	0	0	6	4.29	1.17	0.41
Assertive	0	0	0	1	0	1	0.71	0.19	0.07
Assign Roles	0	0	0	2	0	2	1.43	0.39	0.14
Detailed	0	4	0	0	0	4	2.86	0.78	0.27
Direct Actions	0	0	0	14	0	14	10.00	2.72	0.95
Guidance	0	0	0	2	0	2	1.43	0.39	0.14
Identify Needed Actions	0	0	0	3	0	3	2.14	0.58	0.20
Implement Plan	0	0	0	1	0	1	0.71	0.19	0.07
Information Flow	0	2	0	0	0	2	1.43	0.39	0.14
Manage Expectations	0	1	0	0	0	1	0.71	0.19	0.07
Management	0	1	0	0	0	1	0.71	0.19	0.07
Micromanagement	2	0	0	0	0	2	1.43	0.39	0.14
Organizational Structure	28	4	8	24	0	64	45.71	12.45	4.33
Outcome Focused	0	2	0	0	0	2	1.43	0.39	0.14
Program Management	2	2	2	0	0	6	4.29	1.17	0.41
Project Management	14	8	1	0	1	24	17.14	4.67	1.62
Take Action	0	0	0	1	0	1	0.71	0.19	0.07
Take Charge	0	0	0	1	0	1	0.71	0.19	0.07
Time Management	1	1	0	1	0	3	2.14	0.58	0.20
Total	48	29	12	50	1	140		27.24	9.47
% of Attribute	34.29	20.71	8.57	35.71	0.71				
% of Domain	9.34	5.64	2.33	9.73	0.19				
% of Total Occurrences	3.25	1.96	0.81	3.38	0.07				

with 140 occurrences account for 27% of this domain. *Table 50* reveals that three codes constitute 73% of all code occurrences for this attribute, are direct actions (10%), organizational structure (46%), and project management (17%).

4.2.7.1. Description. The act of controlling decisions, often focusing on processes (planning, organizing, directing, and controlling) and resources (human, financial, and material).

4.2.7.2. Rationale. It is no surprise that the concept of management plays a role in a profession that is largely known as Emergency Management. The topic is not new as seen in the research of Comfort (2007), Deverell (2012), Peerbolte and Collins (2013), and Verbos, Gladstone, and Kennedy (2011), and popular works from Birkland (2006), Brown and Schwartz (2001), Julian (2012), Parker and Farrington (2012), Ripley (2009), Sagarin (2012), and Solnit (2010).

Management concepts are seen in the attributes and outcomes in writings from the UK, US, and New Zealand. The EPS (2011) largely focuses on management issues, evident by the use of the term more than 34 times in their framework. It appears prominently in competencies **EPS07-manage response to emergencies, EPS08-manage the recovery from emergencies, and EPS12-manage computer generated data to support decision making**. Related terms and concepts are even more abundant in the descriptive text. Unlike EPS, MCDEM's (2011) competencies integrate "leadership" as discussed earlier, but the term "management" prominently appears in their framework. Three key areas and three job roles incorporate the concept. As discussed in the "leadership" attribute, FEMA (Cwiak, 2011) identified one graduate outcome that combines both "leadership" and "management."

Shenhar and Renier (1996) noted that there can be no one single model that encapsulates the complexity of management. Likewise, it may be unrealistic for any description, past or present, to provide adequate attention to the subject. The observations and responses of participants from this study discussed in the next section highlight some of the knowledge and skills.

4.2.7.3. Evidence. Public participants indicated expectations of officials taking action and directing the action of others on 14 occasions (10%). The public, with 24 occurrences (17%), expected officials to organize a response structure. This is supported with 28 occurrences (20%) of observations from Emergency Managers. An additional 12 occurrences (11%) raised the supporting code of organizational structure to 64 occurrences or 46% of the total in this attribute. Project Management accounted for 24 occurrences (17%) largely comprised of 14 observations (10%) and 8 Emergency Managers' responses (5%).

4.3. Personal Characteristics (PC)

A man's character is most evident by how he treats those who are not in a position either to retaliate or reciprocate.

Paul Eldridge³⁰

Disasters are ultimately about people as discussed in Chapter 2 and as such, Emergency Management has a human component. In higher education curriculum, knowledge, be it specific or general, is not enough for students to be successful in the workplace as seen in Chapter 2. A wide variety of **PC-personal characteristics** has a great impact (Anderson & Ferrell, 2010; Karim et al., 2012; Knight & York, 2002; Reich, 1991) in the form of social development (Burke, Jones, & Doherty, 2005), interpersonal skills and personal qualities/values (Rasul et al, 2012), self-management and values of discipline and integrity (Jauhari, 2013).

The five individual attributes listed in Table 51 that make up the domain of personal characteristics account for 306 (21%) of all code occurrences. Three attributes (people oriented with 36%, soft skills with 24%, and work ethic with 27%) account for 265 of the 306 (86%) total domain code occurrences.

Looking at where these codes were generated from, Table 51 shows a more distributive set of sources. Interviews with Emergency Managers account for 126 of the 306 (41%) total code occurrences.

The sections that follow provide information about each attribute, a description as they are used in this study, an overview of where the attribute relates to Emergency Management academic literature, and examples from study participants observations and interviews.

³⁰ A quote from *Lanterns in the Night* by P. Eldridge, 1945. Girland, KS: Haldeman-Julius Publications.

Table 51

Personal Characteristics Domain of Attributes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Domain	% of Total Occurrences
Career Focused	5	6	4	2	0	17	5.56	1.15
People Oriented	32	53	7	13	4	109	35.62	7.37
Soft Skills	8	30	9	26	0	73	23.86	4.94
Stress Management & Stress Tested	1	8	3	11	1	24	7.84	1.62
Work Ethic	24	29	5	22	3	83	27.12	5.62
Total	70	126	28	74	8	306		20.70
% of Domain	22.88	41.18	9.15	24.18	2.61			
% of Total Occurrences	4.74	8.53	1.89	5.01	0.54			

4.3.1. Career Focused (PC01)

The most powerful weapon on earth is the human soul on fire.

Marshal Ferdinand Foch³¹

Attention to the profession of Emergency Management and one's role in that profession is central to **PC01-career focused**. This attribute spans individual responsibilities for maintaining current knowledge to exhibiting professional behaviors to contributing to the field. One aspect of this is described in Chapter 2 as reflection. Dewey (1938) espoused the benefits of reflecting on one's experiences as a way of garnering deeper understanding and meaning. In a disaster exercise it would be an After Action Report or in an incident it may be referred to as lessons learned. The concept of lessons learned is ubiquitous through the Emergency Management literature as if practitioners know, understand, and implement changes to their programs based on them. Referring to large incidents like Hurricane Katrina and 9/11, Birkland (2006) says "this is not necessarily the case" (p. 11). This is seen time and time again in exercises (Faith, Jackson, & Willis, 2011; Lerner & Bertram, 2014). Perhaps there is more that can be done.

Six supporting codes form this attribute, totaling 16 total occurrences (5%) as seen in *Table 52* generated from Emergency Management observations (31%), Emergency Management interviews (31%), partner agency interviews (25%) and expectations of the public (12%).

³¹ A quote from M. F. Foch as cited on p. 3 of Blakeley, H. W. (1956). *The 32d Infantry Division in World War II* [Adobe Portable Digital Format version]. Retrieved from <http://catalog.hathitrust.org/Record/000597255>

Table 52

Career Focused Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Career	0	1	0	0	0	1	6.25	0.33	0.07
Monitors Trends and Discussions	1	0	0	0	0	1	6.25	0.33	0.07
Lessons Learned	2	1	0	0	0	3	18.75	0.98	0.20
Profession	0	0	1	0	0	1	6.25	0.33	0.07
Professional Involvement	1	2	3	0	0	6	37.50	1.96	0.41
Professionals	1	2	0	2	0	5	31.25	1.63	0.34
Total	5	5	4	2	0	16		5.23	1.08
% of Attribute	31.25	31.25	25.00	12.50	0.00				
% of Domain	1.63	1.63	1.31	0.65	0.00				
% of Total Occurrences	0.34	0.34	0.27	0.14	0.00				

4.3.1.1. Description. The intentional investment in or progressive achievement of career aspirations through personal reflection, professional contributions, and continual improvement.

4.3.1.2. Rationale. Issues relating to **PC01-career focused** are seen widely throughout the comparative documents. The EPS (2011) integrates aspects of this attribute in eight of their 12 competencies. The focus of **EPS11-debrief after an emergency, exercise or other activity** is to reflect on past recent events in order to “identify lessons to be learned from such events” (p. 36). MCDEM (2011) uses exercises as a framework for identifying “gaps in organizational capability” (p. 38) as one aspect of an entire key area of **CD-capability development** that includes five individual competencies. In addition to **CD-capability development**, the ideas of **PC01-career focused** are expressly seen in other MCDEM competencies and in the intended use of the framework. Individuals and managers can use position specific tables in the framework and supporting role maps to advance their careers or the careers of others.

FEMA (Cwiak, 2011) encompasses the **PC01-career focused** attribute in the two core areas. First, **CAE-awareness and promotion of emergency management** indicates that graduates should promote the advancement of Emergency Management through “involvement in professional organizations” (p. 9). Contributing to the wider field advances the body of knowledge and promotes discussions about “lessons learned” and areas for critical debate. This is also seen in **CEM-emergency management standards, best practices and comparative practices** by the very nature of maintaining current knowledge and evaluating “comparative perspectives” (p. 9).

4.3.1.3. Evidence. It is clear that members of the public have high expectations of Emergency Managers. They expect them to “be professionals” and “act

professionally” and “responsibly” under pressure. One expression of this is through participation with the wider Emergency Management community. Paul Harris and Drew Leemon both admitted that it helps to have a strong network of peers. Several participants were seen contributing articles and making presentations at regional, national, and international conferences. John Pennington commented about a colleague that her experience working with a professional association “has been very instrumental in her deeper understanding of Emergency Management at the domestic and international level.” This type of involvement goes beyond developing a single jurisdiction Emergency Management program.

Jim Buchanan said that Emergency Managers “need to make it a career as opposed to using it as a stepping stone because you have to earn trust with people you work with and with the public.” Trust has emerged as a component of earlier attributes and will continue to be of importance. One expression of this was observed in how Michael Stever runs the Department Operations Center. He acknowledged that the staff are competent and know how to do their jobs, so he provides them with a checklist of how to operate the equipment and gets out of their way. This is not to say that policies and procedures are not developed or used, but it shows a level of comfort among professional staff.

4.3.2. People Oriented (PC02)

The most important single ingredient in the formula of success is the knack of getting along with people.

*Theodore Roosevelt*³²

Jones (2013) identified a list of people skills required by employers that could be developed through educational experiences that included team work, communications, networking, customer service, interpersonal, and intercultural. Likewise Burke, Jones, and Doherty (2005) highlighted interpersonal skills and social development and interaction as key transferable skills from education to other areas of life. Both lists include a thread seeded in interpersonal interactions. The **PC02-people oriented** attribute builds on this idea, suggesting that study participants not only thrive in interpersonal interactions but also place great value on them as an integral part of their being and their job.

Table 53 shows 10 supporting codes associated with this attribute, all dealing with personal relationships. This attribute accounts for 36% of the domain and 50% of occurrences comes from Emergency Management interviews.

4.3.2.1. Description. A disposition centered on interpersonal relationships.

4.3.2.2. Rationale. It is understood that hazards affect people which leads to disasters. Any profession devoted to addressing such issues must encompass the human dimensions. A human focus is seen in the comparative documents from MCDEM and FEMA.

³² A quote from T. Roosevelt as cited on p. 6A of D. Carnegie. 1939, November 5. *Globe*.

Table 53
People Oriented Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Engaging	0	2	0	0	0	2	1.80	0.65	0.14
Helping People	4	1	0	3	2	10	9.01	3.27	0.68
Mentoring	1	3	0	1	1	6	5.41	1.96	0.41
Motivations	1	6	0	1	0	8	7.21	2.61	0.54
Networking	0	2	0	1	0	3	2.70	0.98	0.20
Partner	0	3	1	0	0	4	3.60	1.31	0.27
People Skills	0	10	0	3	0	13	11.71	4.25	0.88
Personal Relationship	21	18	6	3	1	49	44.14	16.01	3.32
Relate to People	0	0	0	1	0	1	0.90	0.33	0.07
Relationships	5	10	0	0	0	15	13.51	4.90	1.01
Total	32	55	7	13	4	111		36.27	7.51
% of Attribute	28.83	49.55	6.31	11.71	3.60				
% of Domain	10.46	17.97	2.29	4.25	1.31				
% of Total Occurrences	2.17	3.72	0.47	0.88	0.27				

MCDEM (2011) lists the first key area as **RM-relationship management**, placing the human dimension up front with two specific competencies. They further integrate the interaction between members of the public, partner agencies, and other Emergency Managers in virtually all of the 29 other competencies. Specifically, **LD02-an environment is created that empowers others to act and succeed** reflects the supporting code of mentoring.

FEMA (Cwiak, 2011) integrates a **PC01-people oriented** ethos in multiple ways. This is seen principally in the core area of **CHM-human dimensions** that addresses a student's understanding of the social issues and the social construction of disasters. It is seen again in **SPN-Public, private, and nongovernmental organizational networking**, this time stating the "graduates should appreciate the importance of public, private, and nongovernmental organization networking" (p. 9). The use of the term "appreciate" brings to light an important aspect of this attribute and that is that **PC01-people oriented** is more than knowledge acquisition of partner roles and responsibilities. An outcome that includes student's appreciation leans towards the construction and influencing of individualized values. The Graduate Outcomes is not the only place that this appears. In principle **5-collaboration**, of The Principles of Emergency Management (2007), Emergency Managers must "create and sustain broad and sincere relationships among individuals and organizations to encourage trust, advocate a team atmosphere, build consensus, and facilitate communication" (p. 7). The use of phrases like "sincere relationships," "encourage trust," "advocate a team atmosphere," and "build consensus" directly point to the importance that Emergency Management incorporates a **PC01-people oriented** ethos.

4.3.2.3. Evidence. Research participants demonstrated and expressed the importance of being **PC01-people oriented** in their interactions with clients,

coworkers, partner agency staff, and clients, as well as in interview responses. One coworker referred to Ray Wood as “the Mayor” because he knows everyone. The researcher observed Ray going out of his way to speak to everyone he encountered from senior staff members to valet and waiters. Alain Normand was another example of this. In the middle of moving tables as he and his staff were setting up for an exercise, Alain purposefully and individually greeted every member of the city’s staff who arrived. He took time with each of them to answer any questions in order to waylay any anxiety before the exercise. During the exercise, he worked one-on-one with inexperienced senior members to provide explanation and coaching. When asked, Alan said that in his role “the most important thing is people skills.” This is seen over and over again in Emergency Managers, many of whom arranged special meetings for the researcher with partner agencies and volunteers and connected him with other Emergency Managers in a snowball fashion.

Volunteers and members of public had a lot to say about Emergency Managers and a PC02-people oriented approach. They expected Emergency Managers who “want to serve people,” to “help the community,” and “help each other.” They expected networking and coordination between groups, they expected leaders to know the strengths and limitations of individuals they interact with, they expected leaders who can relate to people like them, and they expected these personal relations to be handled skillfully.

In totality, a **PC01-people oriented** attribute is about having the knowledge relevant to the field of Emergency Management, acting in the interest of people, and doing it in a people-centric way that recognizes the value of diverse and varied perspectives and interests.

4.3.3. Soft Skills (PC03)

People who fail to regard the truth seriously in small matters, cannot be trusted in matters that are great.

*Albert Einstein*³³

The popular author Rebecca Solnit (2010) writes about the power of people to heal communities after disasters in *A Paradise Built in Hell*. In it, she retells extraordinary stories of ordinary people that express their compassion in such a way to positively impact the lives of thousands. This attribute is very much in the spirit that Solnit describes.

An Emergency Manager's skillful execution of **PC03-soft skills** is demonstrated in their passion for their work and compassion for those affected by disasters. They do it humbly and in a non-threatening way. They demonstrate a willingness to help and to solve difficult problems while understanding and admitting their limitations. For these, and other reasons, Emergency Managers meet ongoing public expectations and instill trust in their supervisors, partners, coworkers, and community.

Previous attributes in the **PC-personal characteristics** domain have noted that employers favor individuals with a wide variety of soft skills. With 27 supporting codes that occur 73 times, this attribute accounts for 24% of the domain and 5% of the total occurrences. *Table 54* shows a wide variety of supporting codes that individually provide little insight but collectively begin to clarify and inform this discussion. It should be noted that under half of each support code (11%) was observed in the field and interviews account for 89% of occurrences as seen in *Table 54*.

³³ A quote from *On Israeli-Arab Relations* by A. Einstein, 1957 July, p. 5. *New Outlook: Middle East Monthly*, 1(1).

Table 54
Soft Skills Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Apathy	0	1	0	1	0	2	2.74	0.65	0.14
Authentic	0	1	0	0	0	1	1.37	0.33	0.07
Build Confidence	0	2	0	0	0	2	2.74	0.65	0.14
Charisma	0	1	0	0	0	1	1.37	0.33	0.07
Commitment	0	0	0	1	0	1	1.37	0.33	0.07
Compassion	0	3	0	1	0	4	5.48	1.31	0.27
Empathy	0	0	0	3	0	3	4.11	0.98	0.20
Empower	0	0	1	0	0	1	1.37	0.33	0.07
Encouraging	0	0	0	1	0	1	1.37	0.33	0.07
Funny	0	0	1	0	0	1	1.37	0.33	0.07
Generous	0	0	1	0	0	1	1.37	0.33	0.07
Humanity	1	2	0	1	0	4	5.48	1.31	0.27
Humble	2	1	1	0	0	4	5.48	1.31	0.27
Limitations	0	0	0	7	0	7	9.59	2.29	0.47
Non-threatening	1	0	2	0	0	3	4.11	0.98	0.20
Open	0	0	0	1	0	1	1.37	0.33	0.07
Open Door	1	0	0	0	0	1	1.37	0.33	0.07
Passion	0	5	1	0	0	6	8.22	1.96	0.41
Patience	0	2	0	0	0	2	2.74	0.65	0.14
People First	0	1	0	0	0	1	1.37	0.33	0.07
Self-aware	0	0	0	2	0	2	2.74	0.65	0.14
Selfless	0	0	1	1	0	2	2.74	0.65	0.14
Thick Skin	0	3	0	0	0	3	4.11	0.98	0.20
Trust	2	6	1	3	0	12	16.44	3.92	0.81

Willingness	1	2	0	0	0	3	4.11	0.98	0.20
Willingness to Help	0	0	0	2	0	2	2.74	0.65	0.14
Worker	0	0	0	2	0	2	2.74	0.65	0.14
Total	8	30	9	26	0	73		23.86	4.94
% of Attribute	10.96	41.10	12.33	35.62	0.00				
% of Domain	2.61	9.80	2.94	8.50	0.00				
% of Total Occurrences	0.54	2.03	0.61	1.76	0.00				

4.3.3.1. Description. A collection of beliefs and behaviors that lead to a compassionate willingness to reduce the suffering before, during, and after a disaster by demonstrating a genuine appreciation of the manner in which interactions occur and decisions are made in order to instill trust in constituents.

4.3.3.2. Rationale. In October 2012, government officials were convicted of manslaughter in Italy because they failed to accurately inform the public of seismic risk in meetings held just prior to a magnitude 6.3 earthquake that killed 309 people (Alexander, 2014). How officials go about doing their job and particularly how they communicate with others is of particular interest. Violating public trust can have dire consequences (Caruso, 2013; Nakayachi, 2015; Nakayachi & Ozaki, 2014; Tanner, 2010; White & Fu, 2012), but Shdaimah (2009) shows that simple beliefs and behaviors can be powerful tools in building respectful relationships. Aldrich (2012) says that “the most effective—and perhaps least expensive—way to mitigate disasters is to create stronger bonds between individuals.” The importance of doing so is seen in part in the UK, New Zealand, and US comparative works, although with mixed results.

The EPS is seen to have a somewhat different representation on **PC03-soft skills** compared to New Zealand and the US. In the Core Competencies Framework (2011), the most direct relationship between the supporting codes identified in Table 54 is in the area of “limitations” which represent 10% of this attribute. The EPS uses the concept of limitations four times in three different competencies; **EPS04-plan for business continuity**, **EPS10-cooperate with other organization**, and **EPS12-manage computer generated data to support decision making**. Limitations are expressed in terms of their recognition in others and in one’s authority. This is not consistent with the reflective use of the term described below in the evidence section.

MCDEM provides more coverage of **PC-personal characteristics** than the EPS, in the Competency Framework (2011). Like EPS's, MCDEM is found to only partially address the **PS03-soft skills** attribute. This time, the supporting code of "trust" is the focus, representing 16% of the attribute. It is addressed in the key area **RM-relationship management** saying that "a high level of trust is essential in the CDEM environment" (p. 13) among (1) key individuals, (2) partner organizations, and (3) communities. This language and positioning in a key area indicates a greater attention to human dimensions of Emergency Management.

In the US, FEMA (Cwiak, 2011) explicitly addresses **CHM-human dimensions**. The concept of trust is found in **SPN-public, private and nongovernment organization networking** in that graduates should appreciate the networking that facilitates it. A wider representation of **PC03-soft skills** is found in **CPE-principles of emergency management**. For this, it is best to look back at the *Principles of Emergency Management Supplement* (2007) and the **5-collaborative** section that was discussed in **PC02-people oriented**. Phrases like "sincere relationships," "encourage trust," "advocate a team atmosphere," "build consensus," "facilitate communication," "interpersonal trust," and "collective action" are equally relevant here. It highlights the idea that ongoing efforts are needed to "sustain the real, human contact necessary to make the system work" (as cited in *Principles of Emergency Management Supplement*, 2007, p 7) and that these efforts are generated from a "sincere desire to listen to and incorporate [all partners'] concerns and ideas" (2007, p. 7).

4.3.3.3. Evidence. The public clearly stated that they expect people in leadership roles to be trustworthy, empathetic, and cognizant of their own limitations. Kevin Achesor said that leaders should "know what they know and what they don't

know.” Another CERT member from the same group added that they need to know their limits and that they should know when to step aside.

The public’s comments feed into the idea of trust as observed and expressed in interviews. Multiple Emergency Managers discussed building trust with emergency services agencies. Alain Normand recognized that he is not a police officer or a firefighter and needs their “specialized skills” as part of a larger disaster team. Lyn Gross and Jim Buchanan expressed similar sentiments. Alain states that by relying on the expertise of emergency services personnel and recognizing their authority, he is viewed as a partner and not a threat. By recognizing their role and value in the Emergency Management system, trusting relationships are fostered. Other Emergency Managers noted the importance of building individualized relationships with people as noted in other attributes.

4.3.4. Stress Management and Stress Tested (PC04)

People are like tea bags. You never know how strong they are until you put them in hot water.

Unknown

Time critical and physically dangerous work that exposes staff to the elements are just a few of the stressors identified by Paton and Fin (1999) that Emergency Managers must contend with. There are also several organizational and operational influences to account for. While the topic has long been studied on law enforcement (Long & Christine, 1999; Stephens, 1997), firefighters (Armstrong, Shakespeare-Finch, & Shochet, 2014; Beaton & Murphy, 1993), medical providers (Schmitz et al., 2012; Sheehan, Thwaites, Yrok, & Lee, 2014), and soldiers (MacDonald, Chamberlain, & Long, 1997; Moyers, 1996), the impacts of stress on Emergency Managers is relatively understudied (Schutt & Marotta, 2011).

Seven supporting codes with 24 occurrences account for 8% of this domain as seen in Table 55. Due in part to the emergent nature of the coding process and the fact that during the time of observations no Emergency Managers were seen responding to a disaster, it is no surprise that the vast majority (92%) of data in this attribute came from interviews.

4.3.4.1. Description. The ability to perform under diverse work conditions for extended periods of time while recognizing, monitoring, and using healthy strategies to manage the chemical, emotional, or physical elements that cause physical or mental tension.

Table 55

Stress Management and Stress Tested Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Calm	0	6	0	8	1	15	62.50	4.90	1.01
Easy Going	0	0	1	0	0	1	4.17	0.33	0.07
In Control	0	0	1	0	0	1	4.17	0.33	0.07
Manage Stress	1	2	0	0	0	3	12.50	0.98	0.20
Relaxed	0	0	1	0	0	1	4.17	0.33	7.14
Self-control	0	0	0	1	0	1	4.17	0.33	0.92
Take Care of Self	0	0	0	2	0	2	8.33	0.65	0.14
Total	1	8	3	11	1	24		7.84	1.62
% of Attribute	4.17	33.33	12.50	45.83	4.17				
% of Domain	0.33	2.61	0.98	3.59	0.33				
% of Total Occurrences	0.07	0.54	0.20	0.74	0.07				

4.3.4.2. Rationale. How people act and make decisions in diverse situations varies greatly. Dual-process theories describe two decision processes: one characterized as primal or impulsive, and the second as analytical or Rationale, or what Stanovich and West (2000) call System 1 and System 2 respectively. Holsti (1971) identifies that the combination of crisis and stress negatively impacts on decision-making and Botterell (2010) says that “stress makes even the most well-trained emergency managers stupid.” To address this, predictive models (Schutt & Marotta, 2011) and responses (Paton, 2003) have been developed. Drabek (1987) notes that successful Emergency Managers are those who are able to maintain control under stress.

The concept of a **PC03-stress management and stress tested** Emergency Manager is best integrated into the MCDEM’s efforts. While not mentioned in the Competency Framework, position specific Role Maps provide lists of skills and knowledge areas that do broach the topic. For a Controller (MCDEM, 2010c), **IP03-human resources are managed in order to achieve maximum effectiveness** is expounded to include knowledge of “stress management” and the ability to “identify, understand and address psychological impacts on self, team and community” (p. 17). Similar language is found in **LD04-leadership is demonstrated through professional conduct and effective self management** for Controllers and Emergency Management Officers. References to performing under stressful conditions is found in **IP02-emergencies are managed in accordance with the scale of activity, existing plans and SOPs** saying the Emergency Management Officers (MCDEM, 2010b) should “facilitate and manage functions in a stressful environment” (p. 19).

4.3.4.3. Evidence. While no study participants were observed under disaster conditions, some were seen consistently working 10 or more hours each day. Of these, they shared some common strategies of changing cognitive tasks regularly,

taking short breaks from computer work, and purposefully standing and walking as a way to integrate healthy behaviors into their day. The importance of understanding and managing personal stressors is evident in interview responses. Emergency Managers frequently used the term “calm” in reference to stresses or working under pressure, and Perry Cogburn said, “you can’t get frustrated.” Michael Nelson said, “In a team concept you need to know that you can rely on another person no matter what and that is how we kind of operate around here.” When asked about what they expected from people they looked to in times of crisis, public participants also referred to a “calm” demeanor. They expected leaders to be able to take care of their own personal stressors and instill calmness in others.

4.3.5. Work Ethic (PC05)

The dictionary is the only place where you come to SUCCESS before you get to WORK.
Unknown³⁴

Self-management (Jauhari, 2013), personal values (Burke, Jones, & Doherty, 2005), a positive attitude, personal initiative, and a willingness to learn (Anderson & Ferrell, 2010) are items generally valued by employers. Galton (1869) finds that eminence is achieved through the demonstration of not one distinct quality, but three in the form of zeal, ability, and a capacity for hard work. Psychologist Angela Duckworth (2007) uses the term “grit” as an expression of an individual’s perseverance, passion, and interest towards difficult challenges over extended periods despite adversity. In the field of Emergency Management, ethics, problem solving, drive, dedication, and commitment are also identified (Blanchard, 2003; Cwiak, Cline, & Karlgard, 2004; FEMA, 2005). All of these relate to one or more of the 18 supporting codes identified as the **PC05-work ethic** attribute as seen in *Table 56*. This attribute accounts for 27% of the total **PC-personal characteristics** group with data represented by observations and supported with interviews.

4.3.5.1. Description. An expressed system of values in which the importance of purposeful activity holds central importance and associated qualities are revered.

4.3.5.2. Rationale. Aspects of **PC05-work ethic** are seen in each of the comparable documents from the UK, New Zealand, and the US, although not consistently. Of the 18 supporting codes identified in this study, six can be traced back

³⁴ A quote from *The Press Box* by S. Currence, 1935, February 17. Bluefield Daily Telegraph.

Table 56
Work Ethic Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Character	0	0	0	2	0	2	2.41	0.65	0.14
Closer	1	2	1	0	0	4	4.82	1.31	0.27
Confidence	0	0	0	2	0	2	2.41	0.65	0.14
Dedication	1	0	0	0	0	1	1.20	0.33	0.07
Discipline	0	0	0	1	0	1	1.20	0.33	0.07
Driven	1	3	0	1	0	5	6.02	1.63	0.34
Explanatory	0	1	0	0	0	1	1.20	0.33	0.07
Focused	4	1	1	2	0	8	9.64	2.61	0.54
Honest	0	0	0	1	0	1	1.20	0.33	0.07
Initiative	4	2	0	1	0	7	8.43	2.29	0.47
Multitasking	1	3	0	0	0	4	4.82	1.31	0.27
Organized	9	5	1	8	1	24	28.92	7.84	1.62
Problem Solver	1	3	2	1	0	7	8.43	2.29	0.47
Progress	1	1	0	0	0	2	2.41	0.65	0.14
Reliable	1	1	0	0	0	2	2.41	0.65	0.14
Responsible	0	2	0	0	0	2	2.41	0.65	0.14
Self-reliant	0	0	0	1	2	3	3.61	0.98	0.20
Willingness to Learn & Willingness to Fail	0	5	0	2	0	7	8.43	2.29	0.47
Total	24	29	5	22	3	83		27.12	5.62
% of Attribute	28.92	34.94	6.02	26.51	3.61				
% of Domain	7.84	9.48	1.63	7.19	0.98				
% of Total Occurrences	1.62	1.96	0.34	1.49	0.20				

to the comparable documents, which account for 46 occurrences (58%), and include confidence, drive, honesty, organization, problem solving, and a willingness to learn. Of these, a willingness to learn is seen across multiple documents.

The concept of organization appears in the EPS's Competency Framework (2011) as a function of organizing meetings, exercise, and information in **EPS04-plan for business continuity; EPS05- validate emergency or business continuity plans; EPS11- debrief after an emergency, exercise or other activity; and EPS12-manage computer generated data to support decision making.** The EPS also addresses personal confidence and the perception of confidence of process or plans in **EPS01-cooperate with other organisations, EPS03-plan for emergencies, EPS05-validate emergency or business continuity plans, and EPS12-manage computer generated data to support decision making.**

MCDEM (2011) takes a different perspective choosing to address the supporting code of drive and problem solving in several of their competencies. In the key area of **CM-communication**, MCDEM addresses the role of leaders in instilling drive in others saying,

Effective communication is reliant on effective **leadership** to influence action, and to drive the morale and motivation of individuals and teams to understand how they communicate impacts on the operating environment. It is integral to relationship management and to influencing desired action. (p. 31)

Drive is further evident in **LD02-an environment is created that empowers others to act and succeed, and LD04-leadership is demonstrated through professional conduct and effective self management.** Problem solving is granted equal attention by MCDEM in **RM-relationship management and IP-implementation.** Phrases like “actively seek solutions to overcome problems” (p. 13), “take ownership of problems” (p. 14), “contribute to team goal setting and problem solving” (p. 29), and “facilitates

team goal setting and problem solving” (p. 29) are attributed to leadership and non-leadership Emergency Management staff.

The supporting code of willingness to learn and willingness to fail is partially seen across all three comparative documents. EPS (2011) largely represents this in the form of “lessons learned” from exercise and other activities like in **EPS11-debriefing after an emergency, exercise, or other activity** saying,

This competence is about organising and conducting debriefs following an emergency, exercise or other activity to enable organisations both individually and as multi agency groups to identify lessons to be learned from such events. (p. 36)

MCDEM (2011) indicates that **CD-capability development** involves a “willingness to learn or share learning” (p. 36) and that a “learning curiosity” (p. 40) is a crucial component of **LD-leadership**. FEMA (Cwiak, 2011) includes “on-going training and education as a critical imperative” (p. 7) and “an appreciation of the evolutionary nature” (p. 9) of the field. The Principles of Emergency Management (FEMA, 2007) more directly addresses a willingness to learn saying “emergency managers value a science and knowledge-based approach...” and capture the totality of **PC05-work ethic** continuing “...based on education, training, experience, ethical practice, public stewardship and continuous improvement” (p. 9).

4.3.5.3. Evidence. Emergency Management participants revealed many characteristics and interview responses related to a positive **PC05-work ethic**. Many of the Emergency Managers used their time productively with Jim Buchanan and Lamorna Cooper being the most notable. Lamorna demonstrated an intense focus on her work consistently over five days, only stopping for meetings or scheduled breaks. Others like Alan Normand commented on the importance of being focused saying that “you must stay focused on the goal and set aside personal issues to get the job done.”

This idea of “getting the job done” is represented in the supporting codes in two ways. First, it is what is referred to as the closer code. The closer is that person, often detail oriented, who gets things done. Jim Buchanan demonstrated this many times during observations by prioritizing items and immediately addressing the most pressing. Lynn Gross described the successful Emergency Manager as one who “follows through” on commitments and partner agency representatives like Jessica Holliday reaffirmed this. The second representation of “getting the job done” is found in the problem solver code. Drew Leemon described the problem solver as someone who looks for “yes” answers to problems. Michael Nelson, when asked about the Virginia Department of Emergency Management’s operations and his relationship with Perry Cogburn said,

One thing I tell my people is ‘you don’t have the authority to say no.’ You really don’t. The only person that has the authority to say no is the agency head who is the state coordinator of emergency management who is designated by the Governor who is the Director of Emergency Management. I don’t have the authority to say no. What that does is it encourages them to figure out a solution instead of just saying we can’t do that. We work really well together because we both look at trying to find an answer instead of passing it off to someone else.

Combining the characteristic of following through with commitments and looking for the yes solutions of problem solvers, Emergency Managers demonstrate **PC05-work ethics** by getting the job done.

It came up several times in interviews with Emergency Managers and the public that while Emergency Managers get the job done, they don’t always get it done right. Dan Neely said that to progress or innovate in his job he has to be willing to try new initiatives, and sometimes those initiatives fail. He went on to explain that failing is okay as long as you learn something from those failures. Jose Dominguez said that “every new responsibility is an opportunity to learn” and improve. Likewise, Rian van Schalkwyk accepted that Emergency Management is evolving and you cannot rely on

past successes or knowledge. He stated that you must look for new ideas and information. Regardless of how long you have been working in Emergency Management, Paul Harris said that attending training, workshops, and forums is an important way of exposing yourself to new ideas and information. Integrating concepts like a willingness to learn with character, drive, focus, initiative, and others, Emergency Managers value and are expected to uphold a high standard of **PC05-work ethic**.

4.4. Business Management (BM)

We're all working together; that's the secret.

Sam Walton³⁵

The lines between business and Emergency Management have been intertwined for many years and in many ways. Business Continuity Management (Wong & Shi, 2015), the involvement of businesses in emergency response (Day et al., 2010; Rademacher, 2011), and the integration of business practices in Emergency Management (Schlegelmilch & Albanese, 2014) are just a few examples. This domain focuses on the managerial execution of an administrative or business unit regardless of its mission. While the attributes identified in Table 57 evolved from the study of Emergency Managers, they could refer to the managerial execution of virtually any business or program or endeavor.

Three attributes evolved from the data in this domain from all sources as seen in Table 57. A field note from 7 November 2012 indicates the early recognition of **BM-business management** in the work of Emergency Managers stating, “the importance of human recourses is a common theme in most observations.” The importance of managing the business of Emergency Management continues throughout the study and is represented in data from 23 of the 34 Emergency Management participants (68%) as well as partner agency representatives and public interviews. Looking at where these codes were generated, Table 57 shows a heavy reliance on Emergency Managers for this data, which accounts for 83 occurrences (78% of domain).

³⁵ A quote from S. Walton, (n.d.). BrainyQuote.com. Retrieved from <http://www.brainyquote.com/quotes/quotes/s/samwalton173449.html>

The following sections detail each attribute by providing information on supporting codes, rationale from key comparative documents, and evidence from research participants.

Table 57

Business Management Domain of Attributes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Domain	% of Total Occurrences
Administration	12	9	1	2	2	26	24.30	1.76
Benefits & Finance	18	9	1	0	0	28	26.17	1.89
Personnel Management	10	25	3	14	1	53	49.53	3.59
Total	40	43	5	16	3	107		7.24
% of Domain	37.38	40.19	4.67	14.95	2.80			
% of Total Occurrences	2.71	2.91	0.34	1.08	0.20			

4.4.1. Administration (BM01)

They must consider that great responsibility follows inseparably from great power.
Unknown³⁶

The attribute **BM01-administration** refers to the overall managerial execution of generalized functions of most any business unit. Being able to demonstrate the value of a product, conducting cost benefit analysis, negotiating services, managing contracts, project monitoring, program evaluation, procurement, and creating an organizational identity are examples of traits demonstrated and expressed in *Table 58* of supporting codes for this attribute. Data is collected from all sources with the preponderance from observations (46%) and interviews with Emergency Managers (35%) as expressed in *Table 58*.

4.4.1.1 Description. Activities related to running an organization.

4.4.1.2. Rationale. A 2011 study found that Emergency Management offices are increasingly under resourced to not only accomplishes disaster activities but also day-to-day operations (Rademacher, 2011). In humanitarian crisis (Polman, 2010) and high profile disasters like the 2010 earthquake in Haiti, the cost utility of expenditures relative to the outcomes is highlighted (Zoraster, 2012) and under increased scrutiny (Koliba, Mills, & Zia, 2011).

Aspects of **BM01-administration** are found throughout Emergency Management literature and in each of the comparative documents from the EPS, MCDEM, and FEMA. The EPS addresses business functions in **EPS04-plan for business continuity** and

³⁶ A quote from *Collection Générale des Décrets Rendus par la Convention Nationale* (Vol 9) by Convention Nationale. 1793. Retrieved from <https://books.google.com/books?id=D55aAAAacAAJ&vq=ins%C3%A9parable&pg=PA72#v=onepage&q&f=false>

Table 58

Administration Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Business									
Administration	0	1	0	1	1	3	11.54	2.80	0.20
Business Case	0	2	0	0	0	2	7.69	1.87	0.14
Checklist	1	0	0	0	0	1	3.85	0.93	0.07
Contract	5	0	0	0	0	5	19.23	4.67	0.34
Efficient Service									
Delivery	0	2	0	1	0	3	11.54	2.80	0.20
Grant	0	2	1	0	0	3	11.54	2.80	0.20
Identify Best Practices	0	1	0	0	1	2	7.69	1.87	0.14
Marketing & Brand									
Management	3	1	0	0	0	4	15.38	3.74	0.27
MOU & SOU	1	0	0	0	0	1	3.85	0.93	0.07
Procurement	1	0	0	0	0	1	3.85	0.93	0.07
Proposal	1	0	0	0	0	1	3.85	0.93	0.07
Total	12	9	1	2	2	26		24.30	1.76
% of Attribute	46.15	34.62	3.85	7.69	7.69				
% of Domain	11.21	8.41	0.93	1.87	1.87				
% of Total Occurrences	0.81	0.61	0.07	0.14	0.14				

Note: MOU and SOU refer to Memorandum of Understanding and Statement of Understanding which are agreements between Emergency Management organizations and other entities for the provision of services. They are often similar to contract for service that require the negotiation of terms and potential cost recovery fees.

EPS09-act effectively across your organisation; grants and funding specifically in **EPS08-manage the recovery from emergencies**; contracts in **EPS03-plan for emergencies**; and the development of proposals in **EPS03-plan for emergencies** and **EPS04-plan for business continuity**.

MCDEM's Competency Framework shares some characteristics of **BM01-administration** with the EPS while adding a heavy emphasis on best practices in over half of their key areas. Prominently seen in **IM-information management, PL-planning, IP-implementation, CM-communications, and CD-capability development**, MCDEM uses language like "capability development relies on individual and organisations keeping informed of current practice and new research, and understanding how to incorporate new learning and knowledge" (2011, p. 36) to emphasize the importance of adaptability.

4.4.1.3. Evidence. Sagarin (2012) described how Emergency Management can utilize naturalistic processes to be more adaptive in changing environments. Dan Neely said that keeping current in the field is one way to identify best practices, and learning from your own personal failures is another. To do this requires personal reflection in the sense Dewey (1938) described and organizational reflection on processes and experiences described by March, Sproull, and Tamuz (1991).

Mark Mall demonstrated one way that study participants demonstrated their adaptive nature to learn from past experiences. After a significant event on his university campus, Mark adapted the Emergency Management program to be more visible. He instituted training programs for students, a smartphone application, and branding and messaging materials. At the time of observation, he was recruiting for someone with marketing and communications experience to fill a new staff position.

Mark said that it was easier to teach a marketing person about Emergency Management than to teach an Emergency Manager about marketing.

Managing the brand of Emergency Management was evident in the City of Brampton and Wellington Region because of strategic and targeted initiatives of staff there. Partially using internal expertise and external relationship management, they facilitated or administered the process more so than executed it. When asked about this, Alain Normand said that part of his role was to “facilitate” with experts towards a common goal of preparedness. Susan Tarry said that being a good manager, Michael Stever, has a working understanding on many topics that allows him to connect with and partner with colleagues on projects that lead to exceptional outcomes.

Recognizing one’s strengths or limitations in marketing, contract negotiations, or grant administration, exceptional Emergency Managers acknowledge the importance of such administrative functions and are seen to have, develop, or seek out the required expertise needed.

4.4.2. Benefits and Finance (BM02)

Budgets will increasingly be stretched. No one is ever getting any more money, so how do we do more creative things with the money we have. We have already been through a time of 'do more with less' and then it was 'do the same with less.' Now we are getting to a point of 'do less with less.' We are always going to be challenged to find different ways of funding, in the nonclassical sense, emergency preparedness and mitigation.

Barb Graff, Director Office of Emergency Management at City of Seattle

Available funding is inadequate to address disaster preparedness and response activities for governments (Lindell & Perry, 2007; Waugh, 2000, 2007). Likewise, businesses struggle to invest sufficient funding in BCM programs (Voss & Siegel, 2009). NGOs, while seen at times to be flush with donations following a high profile disaster (Edmonds, 2012), often struggle to fund ongoing initiatives (Salm, 1999; Toyasaki & Wakolbinger, 2014). Fiscal responsibility and public accountability (Jones & Mucha, 2014; Schmitz, Raggo, & Vijfeijken, 2011; Williams & Taylor, 2013) elevate the importance of professional oversight of this attribute.

BM02-benefits and finance refers to the fiscal oversight of the Emergency Management business unit. Being able to generate and operate within a budget; identify, apply for, and report of different revenue sources; administer employee benefits, and oversee workers compensation claims are examples of traits demonstrated and expressed in *Table 59* for this attribute. Data is largely collected from observations (64%) and interviews with Emergency Managers (32%) as expressed in *Table 59*.

4.4.2.1. Description. The development and administration of financial tools and nonmonetary compensation.

Table 59

Benefits and Finance Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	4	1	0	0	0	5	12.82	4.67	0.34
Budget	8	6	0	0	0	14	35.90	13.08	0.95
Employee Benefits	1	1	0	0	0	2	5.13	1.87	0.14
Funding	4	0	1	0	0	5	12.82	4.67	0.34
Workers Compensation	1	1	0	0	0	2	5.13	1.87	0.14
Total	18	9	1	0	0	28		26.17	1.89
% of Attribute	64.29	32.14	3.57	0.00	0.00				
% of Doimain	16.82	8.41	0.93	0.00	0.00				
% of Total Occurrences	1.22	0.61	0.07	0.00	0.00				

4.4.2.2. Rationale. The EPS (2011) includes language consistent with financial and budgetary considerations in five of their 12 competencies. In **EPS03-plan for emergencies** and **EPS04-plan for business continuity**, Emergency Managers are expected to be able to “agree to a budget for the completion of the project” (p. 11; p. 15). There are additional references in **EPS08-manage the recovery from emergencies**, indicating that knowledge of “the organisations, grants and funding schemes able to provide assistance for recovery from emergencies” (p. 27) be understood, that competent professionals “can recognise the need for, and identify and access the most appropriate funding sources to facilitate the recovery process” (p. 28), and possess “experience in making funding applications” (p. 29).

MCDEM (2011) identifies “securing funding for physical resources to meet requirements, ensuring effective outcomes” (p. 29) in the **IP04-physical resources (facilities, vehicles, equipment, etc.) are sourced, operated and maintained in order to achieve maximum effectiveness** competency. In the same key area of **IP-implementation**, all comments associated with **IP05-financial management processes are implemented and funds allocated** are directed to the effective management and use of fiscal resources.

FEMA (Cwiak, 2011) devotes one entire graduate outcome to financial issues. In **CFD-fiscal dimensions of emergency management**, they say,

Graduates should be able to navigate the policies and procedures that drive the budgetary process. This should include an understanding of the fiscal responsibilities of the private, non-governmental organization (NGO) and public sectors at the federal, state, tribal and local levels. Graduates should also possess a basic understanding of internal and external sources, revenue, budgets and expenditures, accountability, reimbursements, grant management, resource lists, cost-benefit analysis, mutual aid, procurement, and disaster assistance funding. (pp. 8-9)

Additionally, FEMA includes knowledge of federal assistance programs and handling of donations in **CAE-areas of emergency management responsibility**.

4.4.2.3. Evidence. Like Barb Graff's quote that opens this attribute, other study participants recognized the role **BM02-benefits and finance** play in Emergency Management. Bruce Pepperell demonstrated this multiple times when observed in meetings discussing the availability and requirements of different funding sources. In the same office, Rian van Schalkwyk, was also observed raising questions about project cost and cost benefits. Michael Stever extended this concept discussing life cycle budgets that included maintenance fees, termination or disposal cost, and other considerations, when evaluating a program initiative.

In addition to observations that support an understanding of **BM02-benefits and finance**, Emergency Managers acknowledged this and expressed it in interviews. Kathy Sutton from the private sector and Bruce Pepperell, Lamorna Cooper, and Lee Hazelwood from the government sector all commented that accounting and budget are essential to success.

Similar to financial issues, an understanding of employee benefits and workers compensation was observed and expressed in interviews. Ray Wood was observed discussing worker compensation principles with colleagues (not specific claims or claimants). Jose Dominguez talked about how an understanding of the worker compensation process was important to his ability to manage his business and Jim Buchanan said that knowledge of benefits and insurance is important to his success.

Addressing the financial aspects, Emergency Managers were seen to demonstrate an understanding of accounting practices, budgeting, employee benefits, and insurance as important means of running business units.

4.4.3. Personnel Management (BM03)

Be there for your people!

Kerry Field, CERT member from Washington State

In the **PC02-people oriented** attribute, it was discussed the importance of a human centered ethos when dealing with clients, partner agencies, and colleagues. It was noted then and bears repeating the prevalence of people oriented characteristics in the literature. Burke, Jones, and Doherty (2005) identified social development and interaction as desirable transferrable skills from education to the other aspects of life, like the workforce. Information and interpersonal skills (Rasul, Rauf, Mansor, & Puvanasvaran, 2012) along with leadership (Jauhari, 2013), teamwork, and communication (Burke, Jones, & Doherty, 2005; Jauhari, 2013; Jones, 2013) have also been identified. Such interpersonal skills are seen as critical in managing projects (IPMA, 2006) and for business leaders (Leonard & Lang, 2010; Novak, Žnidaršič, & Šprajc, 2015).

The **BM03-personnel management** attribute refers more directly to the recruitment and supervision of Emergency Management staff. The ability to hire staff, assess their abilities, motivate them, provide support, empower them, and supervise them are examples of supporting codes identified in *Table 60* for this attribute. Data for this attribute partially comes from observations (19%), interviews with Emergency Managers (47%), and public expectations (26%) as expressed in *Table 60*.

4.4.3.1. **Description.** Activities related to staff.

Table 60

Personnel Management Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	1	2	0	0	0	3	5.66	2.80	0.20
Appreciate Staff	1	1	0	1	0	3	5.66	2.80	0.20
Assess Abilities	0	0	0	2	0	2	3.77	1.87	0.14
Audit	2	0	0	0	0	2	3.77	1.87	0.14
Empower Staff	0	1	0	0	0	1	1.89	0.93	0.07
Hiring	1	4	0	0	0	5	9.43	4.67	0.34
Human Resources	2	5	1	0	1	9	16.98	8.41	0.61
Moral Support	0	0	0	2	0	2	3.77	1.87	0.14
Personality	0	0	1	0	0	1	1.89	0.93	0.07
Recruit Competent Staff	0	3	0	0	0	3	5.66	2.80	0.20
Skill Matching	0	2	0	1	0	3	5.66	2.80	0.20
Staff Development	0	1	0	0	0	1	1.89	0.93	0.07
Staffing	1	2	0	1	0	4	7.55	3.74	0.27
Supervise Staff	2	2	0	2	0	6	11.32	5.61	0.41
Support Teams	0	1	0	0	0	1	1.89	0.93	0.07
Take Care of Staff	0	1	1	3	0	5	9.43	4.67	0.34
Validation or Reassurance	0	0	0	2	0	2	3.77	1.87	0.14
Total	10	25	3	14	1	53		49.53	3.59
% of Attribute	18.87	47.17	5.66	26.42	1.89				
% of Domain	9.35	23.36	2.80	13.08	0.93				
% of Total Occurrences	0.68	1.69	0.20	0.95	0.07				

Note. The use of the supporting code “audit” refers to the practice by one participating organization. The organization sends staff from one facility to another to conduct audits. This practice is included in this attribute because one of the expressed purposes for the practice is to expose the staff members to new experiences and practices as a way to develop their skills and understanding. This

practice is interpreted as a personnel management issue with implications across multiple other supporting codes (empower staff, human resources, skill matching, staff development, support teams, and staffing).

4.4.3.2. Rationale. Four areas relating to supporting codes stand out in the comparative documents: (a) encouraging staff, (b) empowering staff, (c) staff development, and (d) support staff. While not inclusive of this attribute, these four areas will serve to provide a frame for this discussion.

The EPS (2011) addresses the encouragement of staff by saying understanding should include “the importance of encouraging others to take the lead and ways in which this can be achieved” in both **EPS03-plan for emergencies** (p. 10) and **EPS09-act effectively across your organisation** (p. 29). MCDEM (2011) advocates “encouraging and supporting participation of volunteers” (p. 29) in **IP03-human resources are managed in order to achieve maximum effectiveness**, in access to training in **CD04-capability development opportunities are provided to build a workforce of trained and competent professional**, and in a way that “encourages innovation when seeking solutions” (p. 41) in **LD03-leadership is demonstrated through strategic decision making that influences others and drives change**. While these are examples of encouraging staff, it must be said that encouraging staff is not the same as empowering them.

The best example of empowering staff is found with MCDEM (2011). Under the key area **LD-leadership**, they dedicate one competency to this point. With specific indicators for all levels of Emergency Management staff, **LD02-an environment is created that empowers others to act and succeed** embodies a system that supports a distributive power matrix and **BM03-personnel management**.

The EPS (2011) says that staff should promote the development of others by providing “support to people in your area to achieve their work and development objectives” (p. 32) in **EPS09-act effectively across your organisation**. MCDEM (2011) identifies several ways in which Emergency Management staff provides for the

development of others. One is through “supporting development of colleagues and peers through such activities as coaching and mentoring” in **CD01-capability development opportunities are actively sought and undertaken**. In **CD04-capability development opportunities are provided to build a workforce of trained and competent personnel**, MCDEM discusses conducting and considering staff developmental needs analysis when building teams, assigning tasks, and as a way of addressing gaps in organizational capabilities. They say that staff should be provided with the “necessary opportunities and resources” (p. 38) for development and that senior leaders are responsible for “championing a culture of continuous learning” (p. 38) for both staff and volunteers.

As a means of encouraging staff, empowering staff, and developing staff, supporting staff is central. While both the EPS (2011) and MCDEM (2011) include ways of supporting staff, **LD02-an environment is created that empowers other to act and succeed** sums it up nicely. Emergency Management supervisors are to create the environment or organizational culture where staff are encouraged, mentored, and provided the resources to be successful.

4.4.3.3. Evidence. Study participants were largely found to have created a culture that encourages, empowers, and supports their paid and volunteer staff. One example of this comes from a field note taken during a meeting between an Emergency Manager and members of the local Response Team. The note reads, “Watching Lamorna during this meeting, I noticed she really respects and appreciates the volunteers.” This comment is indicative of many participants in the study. Wade Gayler demonstrated this in observations with volunteers and expressly said, “It is important to find ways to show appreciation to each individual volunteer.” Members of the public expect such individual encouragement and attention. Jack Easter said that leaders need to

“understand that to get people to respond and follow and be part of the team, the best approach is not simply giving instructions or orders, but having people feel like they are part of the team, and having people believe that what they are doing is an important part of the mission at the time.”

Jim Buchanan and Mark Mall are two Emergency Manager participants who recognized the power of others they work with. Like Jack, they demonstrated an understanding that the efforts of many people are needed in their jobs. Not only do they rely on others, both commented on the importance of empowering their staff. Mark said that to be successful in his job, you must empower the staff to act. Jim was observed coaching another staff member to empower his crews to “think for themselves” and not be so dependent on supervisors or policies to make decisions about what needed to happen.

Empowering staff to act is seen as an exhibition of tremendous trust. There may be many factors that lead to the development of such a relationship. One set of factors noted by participants was in the selection and development of staff. Jonathan Mills, Harper Huntley, and Kevin Doak all commented on hiring people with good attitudes. Each of these participants from the private sector commented that Emergency Management skills are something more easily taught than the right kind of attitude. Private sector participants were not alone in this sentiment. Bruce Pepperell similarly commented that success comes from “hiring for attitude and teaching to skills.” Mark Mall added that he learns more about applicants from analyzing how they think as opposed to the number of training courses they may have completed. Mark made an additional comment when discussing staff development. He said that he takes advantage of teachable moments when working with staff. He explained that he uses experiences that he and his staff encounter as opportunities to stop, discuss, reflect on,

and learn from. These may include something that arose during a training session, challenging questions from colleagues, successes and failures in their programs, or disasters that affect other universities. This type of ongoing staff development might be seen as on the job training, but Dewey (1938) would call it experiential learning.

Taking opportunities for staff development is one expression of supporting staff. Responses from study participants indicate that there are additional ways exceptional Emergency Managers do and are expected to accomplish this. The partner agency representative, Jessica Holliday, commented that her local Emergency Manager looks out for all of the EOC staff by providing onsite family support. Public responses tend to focus on physical and emotional support. They are concerned with nutrition, hydration, rest, and stress. Kerry Field advised, “Be there for your people.”

Getting the right people and taking care of “your people” is the thread that links all the supporting codes of **BM02-personnel management**. Accounting for 50% of the data points in this domain and 4% of all data points, providing encouragement, empowering action, developing human resources, and supporting those who work for and with Emergency Managers is worthy of consideration.

4.5. Philosophical Dimensions (PD)

It is easier to fall for anything than to stand for something.

*Unknown*³⁷

Observations of Emergency Managers revealed commonalities in the ways in which they approached colleagues, projects, problems, and the whole of their work. These observations could not be described by a list of specific actions, or skills, or even knowledge areas. They were more than the sum of the collective parts. There appears to be an underlying approach that joins each aspect into something larger. This approach is described here as a **PD-philosophical dimension** that guides the way in which these Emergency Managers think and operate.

In total, this domain accounts for 114 (8%) of all code occurrences with representation from observations (28%), Emergency Management interviews (36%), partner agency interviews (11%), and public expectations (25%). The four attributes listed in Table 61 that make up the **PD-philosophical dimensions** domain are found not to be unique to this study and have linkages to the employability traits and transferable skills discussed in Chapter 2. The sections that follow provide additional information about each attribute, a description of how they are used in this study, an overview of where the attribute relates to comparative documents, and examples from study participants.

³⁷ A quote from Sermonograms. 1927, July 29. *Athens Messenger*, 8.

Table 61

Philosophical Dimensions Domain of Attributes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Domain	% of Total Occurrences
Collaboration	6	10	5	7	0	28	24.56	1.89
Coordination & Cooperation	9	11	5	9	0	34	29.82	2.30
Delegation	16	6	2	4	1	29	25.44	1.96
Flexibility	1	14	0	8	0	23	20.18	1.56
Total	32	41	12	28	1	114		7.71
% of Domain	28.07	35.96	10.53	24.56	0.88			
% of Total Occurrences	2.17	2.77	0.81	1.89	0.07			

4.5.1. Collaboration (PD01)

If men who live in democratic countries had neither the right nor the taste to unite in political goals, their independence would run great risks, but they could preserve their wealth and their enlightenment for a long time; whereas if they did not acquire the practice of associating with each other in ordinary life, civilization itself would be in peril. A people among whom particular persons lost the power of doing great things in isolation, without acquiring the ability to produce them in common, would soon return to barbarism.

*Alexis de Tocqueville*³⁸

Working in partnership with multiple emergency service organizations, governmental departments, private businesses, nongovernmental organizations, established community based organizations, international organizations, and spontaneous groups and individuals, Emergency Managers can and often do accomplish more as Tocqueville (1835/2000) suggests. Although, challenges exist (Rowel, Mercer, & Gichomo, 2011; Waugh & Streib, 2006), the expectation is that Emergency Management leaders overcome these (Kapucu, Arslan, & Demiroz, 2010). Several publications provide strategies for improving collaboration (Curnin & Owen, 2014; Doyle, Paton, & Johnson, 2015; Jung & Song, 2015; Nohrstedt, 2015) with teamwork as a common buzzword.

It should be no surprise at this point that teamwork has been implicated in the Emergency Management field or any other field. Recent graduates in Anderson and Ferrell's (2010) study identified teamwork as a key skill and as an employer expectation. Jauhari (2013) and Jones (2013), likewise found teamwork to be a critical skill in employment success, attributed in part to education. This leads to a finding that

³⁸ A quote from *Democracy in America* by A. de Tocqueville, 2000, p. 490. H. C. Mansfield & D. Winthrop (Ed. & Trans.) Chicago, IL: University of Chicago Press.

Table 62

Collaboration Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	2	0	2	0	0	4	14.29	3.51	0.27
Teamwork	4	10	3	7	0	24	85.71	21.05	1.62
Total	6	10	5	7	0	28		24.56	1.89
% of Attribute	21.43	35.71	17.86	25.00	0.00				
% of Domain	5.26	8.77	4.39	6.14	0.00				
% of Total Occurrences	0.41	0.68	0.34	0.47	0.00				

employer's value discipline specific knowledge like those described in **SKA-specific knowledge areas** as well as "soft" or generic skills like collaboration (Reich, 1991).

The **PD01-collaboration** attribute encompasses the supporting code of teamwork as well as more generalized or otherwise unspecified references. Like most attributes in the **PD-philosophical dimensions** group, these two supporting codes encompass the totality of the codes. Combined, the two account for 28 occurrences or 25% of the domain. *Table 62* provides the distributive sources of codes representing observations (21%), interviews with Emergency Managers (36%), partner agency interviews (18%), and public expectations (25%).

4.5.1.1. Description. The act of working together, in a willing manner, towards shared goals and activities.

4.5.1.2. Rationale. **PD01-collaboration** occurs multiple times in each of the comparative documents. The EPS (2011) says in **EPS02-anticipate and assess the risk of emergencies** that you need to know and understand "why it is important to work collaboratively with other agencies in developing a risk assessment" (p. 7) and be able to demonstrate the ability to "work in collaboration with other agencies where relevant (e.g. to avoid duplication of effort or potentially conflicting messages)" (p. 21) in **EPS06-communicate with the community to enhance resilience**. As with other attributes, MCDEM weaves **PD01-collaboration** into key areas as a way of operating. In **RM-risk management**, MCDEM (2011) describes the competency saying "successful risk management is undertaken collaboratively, requiring coordinated activity across a range of stakeholders, enabled by effective **leadership** and **relationship management**" (p. 20). This approach is seen again in **CM-communications** and, combined with a

team orientation, in individual competencies in the areas of **IP-implementation**, and **LD-leadership**.

FEMA (Cwiak, 2011) picks up on the collaborative nature of Emergency Management saying “graduates should appreciate the importance of public, private, and nongovernmental organizations networking to facilitate collaboration, cooperation, and trust” (p. 9) in **SPP-public, private, and nongovernmental organizational networking**. **PD01-collaboration** is seen again in the **CPE-principles of emergency management** outcome as “an attitude or an organizational culture that characterizes the degree or unity and cooperation that exists within a community” (FEMA, 2007, p. 7). Emergency Managers are seen to collaborate by their ability to “create and sustain broad and sincere relationships among individuals and organizations to encourage trust, advocate a team atmosphere, build consensus, and facilitate communication” (FEMA, 2007, p. 7).

4.5.1.3. Evidence. Michael Nelson is responsible for the statewide Emergency Coordination Center, or as he said, the “caretaker” for the Governor’s facility. Serving as a partner agency representative for this study, he commented about how his office operates before, during, and after an emergency; this is a concise example of **PD01-collaboration**. Referring to his role and the operating premise of the whole Emergency Management team, he said,

We are not an Incident Manager or Incident Commander. We are a coordinator because this is a coordination facility... Let’s just say an event is coming on and I need ESF #1 staffed up and that’s all I tell them. I might also tell them to have a staffing plan for the next four days, 24 hours. That’s it. They determine how to staff. They determine to make sure they have the right people for what ever the event is... We don’t tell them how to do things, we just make sure that they know they need to be here and have the right things to do the job. And it works out really well because people have a lot more buyin when they know they are trusted to do

their job. A lot of places are very strict, you will do this and do this. We don't do that. As a result we have a lot of participation.

Michael made a clear distinction between his role as a coordinator and field response. He clearly demonstrated confidence in and a high level of expectation from the approximately 450-team members that may staff the center. His approach is similar to that of Alain Normand and Jim Buchanan's who believe that their role as Emergency Managers is not to fight fire or rescue people, but to provide the resources and capabilities for those specialist agencies to do what they do best.

A team concept or teamwork is the most common expression of **PD01-collaboration** from interviews. Of the 28 total data points attributed to this attribute, 22 (79%) came directly from interview responses about teamwork. Emergency Managers said that to be successful you "must work well with others," "have a diverse team," "build relationships with partner agencies," and "develop a team that is bigger than your own organization." Partner agency representatives recognized the importance of teamwork with Susan Tarry saying, "every conversation for him is an opportunity to use his team building skills and he does it." Members of the public picked up on the importance of teamwork saying they expect leaders to "understand a team approach," "work well with others," and "work together."

4.5.2. Coordination and Cooperation (PD02)

This final resort to violence has been regarded by many thoughtful people as inevitable, man being what he is, that is, the product by natural selection of the results produced by the struggle for existence; for the ordinary thoughtful person is not aware that the tendency toward a struggle for existence is balanced and opposed by the strong influence of the co-operative urge. Because of this common attitude toward war, and because of this fundamental importance to our species, I propose to cut through the shifting tangle of international policies down to the basic biological significance which it holds for us.

In doing so I must recognize these two fundamental principles, the struggle for existence and the necessity for co-operation, both of which, consciously or unconsciously, penetrate all nature; and I shall say now that we may find that these two principles are not always in direct opposition to each other; that there is evidence that these basic forces have acted together to shape the course of evolution, even the evolution of social relations among men and nations of men.

William Allee³⁹

Merriam-Webster defines coordination as “the process of organizing people or groups so that they work together properly and well” and cooperation as “a situation in which people work together to do something.” While recognizing that challenges may exist related to mission, capabilities, politics, and practices among Emergency Management organizations (Caruson & MacManus, 2012), strategies for increasing coordination are identified by Kapucu, Bryer, Garayev, and Arslan, (2010). Cooperation is not unique to Emergency Management. William Allee (1938) found intentionally altruistic behaviors between many types of animals. In a similar way, Muir (2001) and Ostrom (1990; 2002) found individuals and groups coordinating for their overall benefit.

In **PD01-collaboration**, the position teamwork plays in Emergency Management (Curnin & Owen, 2014; Doyle et al., 2015; Kapucu et al., 2010; Jung & Song, 2015; Nohrstedt, 2015; Rowel et al., 2011; Waugh & Streib, 2006), education, and

³⁹ A quote from *The Social Life of Animals* [Adobe Portable Document Format version] by W. C. Allee, 1938, pp. 210-211. Retrieved from <http://www.biodiversitylibrary.org>

Table 63

Cooperation and Coordination Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Coordination	9	10	5	9	0	33	97.06	28.95	2.23
Cooperation	0	1	0	0	0	1	2.94	0.88	0.07
Total	9	10	5	9	0	34		29.82	2.30
% of Attribute	26.47	29.41	14.71	26.47	0.00				
% of Domain	7.89	8.77	4.39	7.89	0.00				
% of Total Occurrences	0.61	0.68	0.34	0.61	0.00				

employability (Jauhari 2013; Jones, 2013) was highlighted. A discussion of **PD02-coordination and cooperation** should also acknowledge the inclusion of social development (Burke et al., 2005) and interpersonal skills (Rasul et al., 2012), as described in Chapter 2. Collectively, all of these individual pieces, executed as part of an underlying philosophical grounding, provide for a coming together and situation of working together.

The **PD02-coordination and cooperation** attribute encompasses the supporting code of coordination and cooperation. Like most attributes in the **PD-philosophical dimensions** group, these two supporting codes encompass the totality of the codes. Combined, the two account for 34 occurrences or 30% of the domain. *Table 63* provides the distributive sources of codes representing observations (26%), interviews with Emergency Managers (29%), partner agency interviews (15%), and public expectations (26%).

4.5.2.1. Description. The harmonious interaction of individuals and organizations for mutually beneficial goals.

4.5.2.2. Rationale. **PD02-coordination and cooperation** occurs multiple times in each of the comparative documents as well as in several international standards on disaster and humanitarian assistance (ASTM, 2010a, 2010b, 2014; Groupe URD et al., 2010; ISO, 2011b; The Sphere Project, 2014). The EPS (2011) defines **EPS07-manage response to emergencies** as “managing the response to an emergency at all levels of coordination” (p. 24) and is accomplished by “working in cooperation with other responders” (p. 25). **EPS10-cooperate with other organisations** provides further explanation saying, “this competence is about working in partnership with internal and external stakeholders to deliver Emergency Management functions” (p. 32).

MCDEM (2011) states that one of the goals of the National CDEM Strategy is to “enhance New Zealand’s capability to manage emergencies. Achievement of this goal requires strategic integration and cooperation across all CDEM stakeholders” (p. 6). One measure to address this strategy is the creation and implementation of the Competency Framework in which coordination is addressed several times. **RS-risk management** is described saying, “successful risk management is undertaken collaboratively, requiring coordinated activity across a range of stakeholders, enabled by effective **leadership** and **relationship management**” (p. 20).

FEMA’s integration of **PD02-coordination and cooperation** is found primarily in two outcomes. In the **CPE-principles of emergency management**, coordination “refers to a process designed to ensure that functions, roles and responsibilities are identified and tasks accomplished; collaboration must be viewed as an attitude or an organizational culture that characterizes the degree of unity and cooperation that exists within a community” (FEMA, 2007, p. 7). This idea of integrating these inclusive concepts is again expressed in SPP-public, private and nongovernmental organizational networking, where FEMA (Cwiak, 2011) states that “graduates should appreciate the importance of public, private, and nongovernmental organization networking to facilitate collaboration, cooperation, and trust” (p. 9).

4.5.2.3. Evidence. A common expression on cooperation was observed in how the Emergency Management study participants chose to layout their EOCs. Most observed layouts provided for close coordination among staff and utilized face-to-face communications when possible. This was accomplished by using a variety of methods individualized to the physical parameters and number of staff. Most commonly observed was a “U” shaped configuration in smaller rooms and with small staff and

table groups in larger facilities with larger staffing numbers. Nowhere was the traditional lecture style classroom configuration where all students, or staff in this case, are directed towards a teacher, or commander, representative of the Banking Theory of education discussed by Freire (1970/2005). **PC02-coordination and cooperation** is more akin to the ideas of mutual respect between students and teacher that Rousseau (1762/2002) advocated for. This attribute could be said to parallel student-centered learning approaches where the previous knowledge of students or expertise of staff are integrated and capitalized on in the education, or collaboration, process.

Jim Buchan was seen to operate with high regard for coordination and cooperation, not only in the orientation of his EOC, but in his approach to managing it. Like the description of Michael Nelson in **PD01-collaboration**, Jim described his role as a facilitator. He is not responsible for conducting the response, but rather for bringing together the right staff and providing them with the resources they need to get their jobs done.

In addition to observations and interview responses from professionals, public participants expressed their expectation for coordination. Coordination with community groups, responders, hospitals, and other agencies is expected. A CERT member from Idaho, Katie Nikadow, added that coordination should be accomplished in a manner that excludes power struggles.

4.5.3. Delegation (PD03)

The way I work is to identify the problem, find the right individuals to do the job, and then let them go to it. I've found this invariably brings out the best in people. They seem to rise to their full capability, and in the long run you get more done.

Ronald Reagan⁴⁰

In light of the previous attributes, **PD01-collaboration** and **PD02-coordination and cooperation**, the notion of **PD03-delegation** may seem like a departure in approaches. **PD03-delegation** here is not intended in an autocratic manner, but rather a philosophy of shared responsibility, or as some may say, power. This attribute has undercurrents linked to community resilience (Aldrich, 2012), emergency command and control models (Jensen & Thompson, 2015; Lutz & Lindell, 2008), and even lessons from decentralized organizations and systems from the natural world (Levin, 1999; Vermeij, 1987). There is more debate and discussion on these topics than can be adequately addressed here. So instead of providing an inadequate review of the academic literature on these topics, this section instead chooses to focus on the evidence of delegation in this study.

PD03-delegation here encompasses just one code and accounts for 29 occurrences or 25% of the domain. *Table 64* provides the distributive sources of each occurrence from observations (55%), interviews with Emergency Managers (21%), partner agency interviews (7%), and public expectations (14%).

4.5.3.1. Description. The demonstrated philosophy of shared responsibility and power expressed through the promotion and utilization of decentralized structures.

⁴⁰ A quote from *Address to the Nation on the Iran Arms and Contra Aid Controversy*, by R. Reagan 1987, March 4. Retrieved from <https://reaganlibrary.archives.gov/archives/speeches/1987/030487h.htm>

Table 64

Delegation Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	16	6	2	4	1	29	100.00	25.44	1.96
Total	16	6	2	4	1	29		25.44	1.96
% of Attribute	55.17	20.69	6.90	13.79	3.45				
% of Domain	14.04	5.26	1.75	3.51	0.88				
% of Total Occurrences	1.08	0.41	0.14	0.27	0.07				

4.5.3.2. *Rationale.* As an attribute that accounts for 25% of this group, evidence of shared responsibility or delegative practices is less prevalent in the comparative documents. FEMA (Cwiak, 2011) states that graduates should appreciate the value of leadership and management skills and how and when they should be applied and identify and use decision making models. From the available information, it is unclear if this includes a delegative ethos. MCDEM (2011) provides more clarity in **LD02-an environment is created that empowers other to act and succeed**, saying that staff should “delegate responsibility as appropriate and required” (p. 41).

It should be made clear that **PD03-delegation** is not used in terms commonly found in the leadership literature. There, a delegation leadership style, or laissez-faire leadership style (Lewin, Lippett, White, 1939) may be described as “not only a lack of presence, and therefore a type of zero leadership, but it implies not meeting the legitimate expectations of the subordinates and/or superiors concerned” (Skogstad, Einarsen, Torsheim, Aasland, & Hetland, 2007, p. 81). Supporters may say that a delegation leader allows individuals to self-manage and is allowed to assume the role of information provider while not exerting control over others (Vugt, Jepson, Hart, & Cremer, 2004). The **PD03-delegation** attribute is more in line with the latter, although not completely. Sagarin (2012) describes a method or organizational adaptability as transforming “orders” into “challenges.” He illustrates that

An order is anything created by a small elite group (or powerful individual) that is forced upon anyone else in the group under the expectation that it will be followed to the letter. A challenge, by contrast, is an open solicitation for help to solve an identified problem. Issuing a challenge is not about relinquishing control or completely overturning an existing hierarchy... Challenges work because they emulate the natural adaptive organization of nature, where multiple semi-independent agents are solving problems where they occur. In more human terms, they give ownership of a problem to the people who have to work on solving it. (Sagarin, 2012, p. 218)

As evident in the next section, Emergency Managers who demonstrate this attribute do so through empowering groups to meet challenges while yielding little or no administrative authority over these groups inside and outside of the EOC.

4.5.3.3. Evidence. Observations of several Emergency Managers revealed a utilization of delegative practices. Jim Buchanan, Perry Coghurn, and Mike Mall all were seen to rely on their staff to administer programs and projects as evidenced in content and structure of observed meetings. Wade Gayler did so on several occasions. During one long-term recovery meeting, Wade, with years of experience in this area, was seen allowing a novice co-chair to take the lead. Wade provided support as needed during that meeting and in subsequent interactions in a mentorship capacity. When asked about why he did not take the lead role, Wade replied that the co-chair was doing a good job and asking all the right questions, so he did not feel the need to exert himself. He added that the co-chair was taking ownership of the recovery and that is, in part, what he wanted to happen. This mentality is considered typical of other Emergency Management participants in action and supported by their comments.

Wade, Drew Leemon, Kevin Doak, and Kathy Sutton all commented that successful Emergency Managers are people who delegate. Public expectations reveal the same perspective with comments like, leaders should “delegate responsibilities” and leaders should be able to “delegate well.”

4.5.4. Flexibility (PD04)

It is often assumed that the stack of boxes leading to one central controller is the natural and inevitable way an organization develops. And people working within such an organization often assume that there is no way to change that system of organization without destroying the entire organization itself. The first assumption is, in fact, completely false, as proven by most successful biological organizations on Earth. And challenging the second assumption, which is beginning to happen in societal organizations throughout the world, is the key to turning nonadaptable organizations like the DHS, as well as the Department of Defense, discussed in the prologue, into adaptive organisms that learn from changes in the environment, react quickly to them, and ultimately keep us safer. Fortunately, pioneering individuals and organizations around the world are providing us living proof of how adaptable we can be, even in a world of stacked boxes and organization.

Rafe Sagarin⁴¹

Linked closely with adaptability (Bhandari, Owen, & Brooks, 2014) **PD04-**

flexibility is seen by most as a critical component of Emergency Management (Boin & Hart, 2010; Comfort, 2007; Kapucu, Arslan, & Demiroz, 2010; Waugh & Streib, 2006), although little empirical evidence exists. Dewey (1938) discussed how knowledge and skills are stored in kind of chunks that can be recalled and applied to new situations. Likewise, Sagarin (2012) described several similar situations of learning from past experiences and applying that knowledge to new situations.

This attribute encompasses just one code and accounts for 23 occurrences or 20% of the domain. *Table 65* provides the distributive sources of each occurrence from interviews with Emergency Managers (61%) and public expectations (35%).

4.5.4.1. Description. Willingness to change, adapt, adjust, cope, change, or compromise in evolving situations and times.

⁴¹ A quote from *Learning from the Octopus: How Secrets from Nature Can Help us Fight Terrorist Attacks, Natural Disasters, and Disease* [Kindle Keyboard 3.4 version] by R. Sagarin. 2012, p. 71. Retrieved from <http://www.amazon.com>

Table 65

Flexibility Attribute Supporting Codes.

	Observations	EM Interview	Partner Agency Interview	Public Expectations	Other	Total	% of Attribute	% of Domain	% of Total Occurrences
Nonspecific	1	14	0	8	0	23	100.00	20.18	1.56
Total	1	14	0	8	0	23		20.18	1.56
% of Attribute	4.35	60.87	0.00	34.78	0.00				
% of Domain	0.88	12.28	0.00	7.02	0.00				
% of Total Occurrences	0.07	0.95	0.00	0.54	0.00				

4.5.4.2. *Rationale.* A flexible nature is seen in the comparative documents.

The EPS (2011) largely focuses on change management and documentation. **EPS07-manage response to emergencies** comes close to the idea of **PD04-flexibility** saying the practitioners “can recognise changes in circumstances promptly and adjust the management of the response accordingly” (p. 22) although this is a bit clinical. MCDEM (2011) embraces the concept saying that leaders in Emergency Management should “drive change by constructively challenging assumptions and seeking solutions” (p. 41) in **LD03-leadership is demonstrated through strategic decision making that influences others and drives change.**

FEMA (Cwiak, 2011), like MCDEM, embraces the concept of flexibility as seen in **CME-emergency management standards, best practices and comparative practices.** In part, FEMA says, “graduates should exhibit an appreciation of the evolutionary nature of Emergency Management including current, ongoing, and developing societal and technological changes” (p. 90). Again in **CPE-principles of emergency management**, flexibility is shown as a high priority, as it is named as one of the principles. FEMA (2007) says,

Due to their diverse and varied responsibilities, emergency managers constitute one of the most flexible organizational elements of government. Laws, policies and operating procedures that allow little flexibility in the performance of duties drive more traditional branches of government. (p. 8)

They go on to describe the importance of flexibility, saying,

Flexibility is a key trait of emergency management and success in the emergency management field is dependent upon it. Being able to provide alternate solutions to stakeholders and then having the flexibility to implement these solutions is a formula for success in emergency management. (p. 9)

4.5.4.3. *Evidence.* Supporting flexibility as a *Principle of Emergency*

Management, Barb Graff said, “the very nature of our business is that you are going to

wind up dealing with things you have not dealt with before and you will need new solutions.” Other Emergency Managers made similar comments when asked about success. Michael Stever made references to the animated Claymation Gumby character created by Art Clokey and said, “I’m so flexible, I’m liquid.” Lamorna Cooper suggested that to be successful, one should “be a change manager because the whole Emergency Management sector is constantly changing,” and Sandra Miller added that one must “move with the times.”

Several Emergency Managers went beyond identifying **PD04-flexibility** as essential for success and provided examples. Steven Weber noted that flexibility is needed when dealing with administrative staff, budgets, project needs, and staff needs. Harper Huntley added that flexibility is needed in daily interactions as well as during incidents.

It is clear that the public expects a level of flexibility from their leaders. Roy Smith said he expected leaders to “adapt to changing circumstances.” Later, he added that they should be “Semper Gumby,” a reference to the US Marine Corps motto *Semper Paratus* translated as “always faithful” and the Gumby character, implying “always flexible.”

4.6. Conclusion

Attributes presented here were all thought to play a role in being a successful Emergency Manager. They also share in a role for curriculum development. They differ however, in their form. Some attributes can clearly be aligned with knowledge while others are more skill based, and still others are qualities. **SKA01-assessments, SKA04-risk management, SKA06-phases, SKA07-planning, SKA09-roles**, and many others are quantifiable in terms of levels of understanding discussed by Biggs & Tang (2011) and knowledge dimensions discussed by Bloom (1956). Attributes like **GKA01-communications, GKA05-cognition**, and **GKA06-leadership** have knowledge components while also including practical applications of skill. Attributes in the **PC-personal characteristics** and **PD-philosophical dimensions** domains may include knowledge of the subject and application of related skills, but they primarily deal with qualities. While no less relevant in this study, such qualities are less likely to be quantifiable in an academic setting.

Regardless of form, attributes of successful Emergency Managers serve as a starting point towards curriculum development. In Chapter 5 a few attributes are implemented in a study of course assessments with a discussion about their form, use, application. Chapter 6 continues to use attributes and builds on the discussion of assessment techniques to discuss a program wide curriculum.

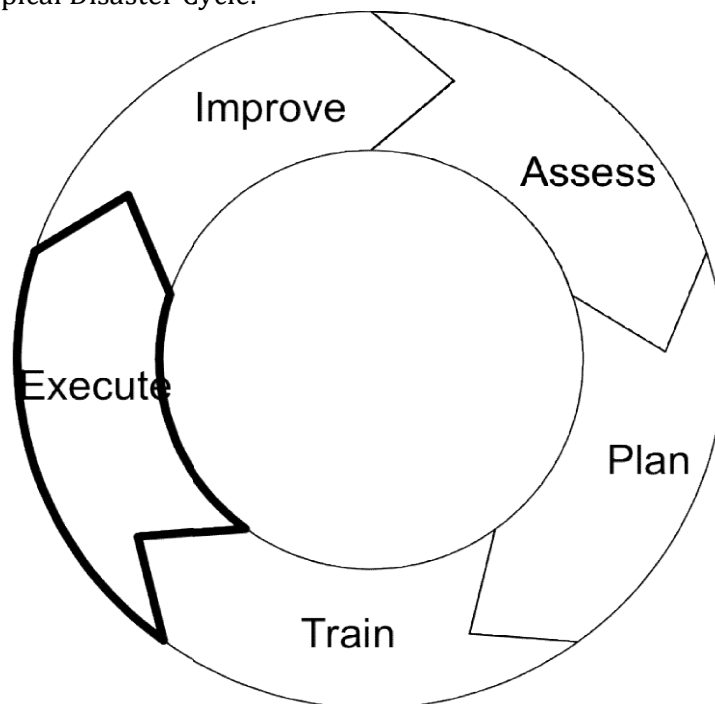
5. Execute: Evaluation

Let's scrap open-book tests, zoom past open-phone tests asking Googleable questions, and advance to open-network tests that measure not just if kids answer a question well, but how literate they are at discerning good information from bad and tapping into the experts and networks that can inform those answers. This is how they'll take the real-life information and knowledge tests that come their way, and it would tell us much more about our children's preparedness for a world of abundance.

Will Richardson⁴²

In New Zealand, MCDEM says that agencies use exercises “to evaluate their capabilities to execute one or more components of their response or recovery capability” (2009, p. 9). In education terms, Earl (2013) identifies that assessments can be used to guide, to inform or monitor, and to quantify.

Figure 13
Exercise in a Typical Disaster Cycle.



This chapter describes a pilot study from one undergraduate course where an academic assessment was analyzed, it reports findings from student focus groups, and

⁴² A quote from *Why School?: How Education Must Change When Learning and Information are Everywhere* [Kindle Keyboard 3.4 version] by W. Richardson, 2012, Rethink Assessment, para. 13-14. Retrieved from <http://www.amazon.com>

discusses specific points emergent from the data that is salient to Emergency Management curriculum development.

5.1. Context

GEOG 305 Environmental Hazards and Management is an upper division course requiring prior study in geography. It is credited with 30 points or a 0.25 Equivalent Full-time Student (EFTS) value (UC, 2014a) where a workload of 96 points or 0.8 EFTS per year is considered full-time (<http://www.canterbury.ac.nz/courses/glossary.shtml>). The course meets for one semester and includes three one hour lecture sessions each week (24 February 2014 through 8 June 2014) and one two hour lab session each week (3 March 2014 through 30 March 2014 and 5 May 2014 through 25 May 2014).

According to the published description, “the course provides an understanding of hazards, risk and disasters, and it also aims to develop some of the interpersonal skills necessary for their management (e.g. the ability to collaborate, direct a project with limited supervision, use simulations...)” (<http://www.canterbury.ac.nz/courseinfo/GetCourseDetails.aspx?course=GEOG305&occurrence=14S1%28C%29&year=2014>). To address the interpersonal skills, the course coordinator deploys two strategies. First, he allocates roughly half of the lecture sessions to focus on human issues (personal communication 10 February 2014). Secondly, he designed a group assignment that requires the use of interpersonal skills and includes student involvement in the grading.

Four focus groups with a total of 48 student participants yielded rich discussions about the course content, assignments, instructors, and labs. While a report was provided to the course coordinator summarizing all of these points, the discussion relevant to this study focuses on one group assessment.

Accounting for 25% of the total grade, students were assigned into groups to create an audio/visual presentation of a hazard targeted for a defined audience. Each group was given time during lab sessions to organize and work on the assignment. Each group received one grade based on an in-class presentation, written report, and peer-assessment.

Five themes emerged from discussions with students during the week following their presentations. They identified the practical nature of the assignment, discussed and questioned the purpose of the assignment, commented on the medium, raised points about the overall facilitation of the assignment, and discussed the grading process. Each are discussed below.

5.2. Emergent Theme 1: Practical

Education's role in employability has been highlighted by the New Zealand Ministry of Education (2014), the Dearing Report (1997) in the UK, and many researchers (Bennett et al., (2000); Curtis & McKenzie, 2002; Harvey et al., 1997; Harvey et al., 2002; Poropat, 2011; Reich, 1991). Rasul, Rauf, Mansor, and Puvanasvaran (2012) specifically identify interpersonal skills as some that can be developed in academia and transferred to the workplace.

According to Bloom (1956), a practical based assessment, such as described here, is an application of knowledge, and Dewey (1938) would find it experiential.

Several participants commented on the practical nature of the assessment. One female student said, "You had to do something practical, so it did kind of mean you had to go out and actually see things, so that was kind of good." A male student, recognizing the link between a practical assessment and skills that can be transferred to the workplace, said, "We're going to be in a team and we're going to have to discuss with each other, and figure out roles and things like that."

5.3. Emergent Theme 2: Transferable Skills

It would seem that the preponderance of student comments recognized the link between group work in academic settings and their transference to the workplace. A sample of such comments about group work follows:

I thought it was good to work with a group. Group situation, for the fact is you could – say, if you're in a working situation, you're getting exposed to the opportunities to work with others, and we all find out the strengths and weaknesses and you work to that. I thought that was quite – that was very well done.

In real life, you're going to be involved in group work; like pretty much no matter what situation you work in, you're going to, at some point, be working in group, and if you don't have any experience of working in group, it's ...

In the real world, like I've been in the workforce for 10 years prior to uni, and a lot of the stuff I've done in the outdoors has been, you know, team – team environments, and there's always people that do less work, like that's reality, so I suppose it's, you know, bringing you in to that reality...

Sort of something you can take forward to the workplace because you're always going to have problems and you have to work around them.

Researchers have noted the benefits of group work to include enhanced communication skills, negotiation skills, cultural sensitivity, and enhanced diversity of perspectives (Craid & Piškur, 2012; Montgomery, 2009; Moore & Hampton, 2015).

Student participants also commented on the benefits of diverse perspectives.

Yeah, I felt it was pretty much beneficial most of the time, like even if you did really work well with someone else, they had a different point of view, so you'd always like look at their point of view, maybe you'd think of what your argument was. Either way, it was – I think it's beneficial.

I think it was good the way it was done because you get the opportunity to work with people you don't know (inaudible). Instead of getting used to working with a certain group of people and working in the same way, you learn other people's points of view, and you have to adapt. That's what I found.

I think it's good because you get to – you do get to work with other people, and no one sees the same. You've got to learn how to deal with different opinions and stuff, and work through it.

Kind of get where everyone's got to work together, so everyone knows slightly

different things, or has a slightly different way to do something, and I suppose when you're doing your own assignments, you get stuck on how you do it, and it's always exactly how you want it, but then, when you work with other people, you're kind of like negotiating different ways to do it, which was quite cool to do, and have like – learn other people's ideas and things like that.

I suppose you get to do sort of more interesting and bigger assignments, because, like the group assignment we did, that would have been a whole lot of work to do if we – by yourself, so it's like you get to do more interesting things in a group. You share the work around and do more.

It is clear that not all students fully grasped the full purpose of the group assignment during the focus group discussion. Two areas of misunderstanding appeared in the data. The first deals with technical content and the second with the inclusion of interpersonal skills.

A few students raised the issue that the assignment did not assess their individual technical knowledge about the subject.

I don't think it was particularly well done in the sense because the actual content of what we would bring out wasn't really assessed that harshly. It was more about how we were able to work together as a group, and just present an idea in a different way than what we would usually. And I think we had to work out all the issues that you might have in group-based assessment in the sense that, you know, some people might not, you know, want to – that you rely on the people and their information to be correct, whereas, in this case, that wasn't really an issue. It wasn't, you know, it was more about how you presented it, and whether you were able to engage your target audience.

Because, at the end of the day, I need to be able to write a report, and those people are obviously better at writing a report than I was so – and that's what the employer wants to see whether I can –

Referring to another university course, a male student said,

I had one Geology paper assignment through Massey, and it was a mapping project, and we spent two weeks doing a map. And I did the map because the other three didn't really know how to do it, but then that was only worth 30 percent of the grade, and the other 70 percent was all the report, and I had the lowest mark in the group, even though I had spent the time in the two weeks explaining how to do the map and that to everybody, so there still can be, you know, unequal, but I think it's better to do it that way.

It appears that these students associate academic assessments with Bloom's (1956) lower level dimensions of knowledge and comprehension. It is clear in the information provided by the course coordinator that this assessment included the application of knowledge.

As a counter point, several students noted that they preferred to use knowledge or content covered in class as a component of some other assessment. One male student commented that by using information "you're understanding why it happened, how it happened, who it affected." A female student chimed in commenting, "it allows you more of an opportunity of gauging the information." Another student commented, "I'm a practical person. I learn more if I'm working on something, and come to understand it better if I'm able to work at it from a different angle."

The second area of misunderstanding involved the inclusion of interpersonal skills. The course description identified the inclusion of interpersonal skills in the management of hazards and provided the example of collaboration and the ability to "direct a project with limited supervision."

I've been in the workforce for years, and I've been in management positions and stuff, so group work is kind of pointless for me, because I've done all that before in the workforce, but if you're straight out of high school, then, yeah, it's really beneficial. I can totally understand why you do it.

I don't really like it very much just because you've got to organise everyone.

Of a group assignment, that's kind of the point. You – it's like, in the real world, you actually have to organise –

I think it depends on the topic. Some topics are great to work with in groups like this one, but others are – you feel like it's easier to do it by yourself, but then again I suppose that comes down to how the group works together, because some groups, like my group worked really well together, and other group assignments I've got, I'm finding it quite difficult to work as a group. We're all running sort of individual but then coming together, whereas, with this, we all contributed.

It's give and take. Some are good; some are bad. It all depends on your group.

Yeah, it's luck of the draw a lot of the time, but it's got to be done.

Maybe it's not the point of this course to evolve socially, like sort of, you know, communication skills, but it should be part of every course.

While group work was not new to the students in this study, it did provide challenges in the form of coordination, common expectations, and apathy.

I had a great group. I really enjoyed it. But then I can imagine there's some groups, like anywhere, if you're trying to put a whole lot of people together, some people aren't going to get on, or have different ways of looking at things, and that's the – it's good and bad, and you've got to be able to work around that, go back to a practical sense. You are going to get some people in the workplace you get on better with and some people that you've just got to deal with.

Yeah, the biggest challenge is like pulling it together.

Sort of like problem-solving, working things out together, sort of saying ... like if there's a problem in the group, in our group, we can work it out, sort of work through it, sort of thing. It's a kind of ... it's a unique experience, I guess.

It gives us like the experience of working in groups, because you're not really always in life going to be put in like a group where everyone's contributing equally and stuff, and it's just, I suppose, preparing us for that fact really.

It comes down to like different people's expectations like some people like want to do well, and other people are like, 'Okay, we'll just go through like just like cruising and like doing our best', but like other people have got really high expectations.

Personally, I just hate group work, eh.

Yeah, I'm in another group where one of the participants has already said, 'I don't mind if I fail this part of the paper', the group. And I said, 'Well, I've got news for you. This is about working as a group', and I said – that's when I talked about the workforce thing, because he didn't understand that. He said, 'I don't understand why we're doing this', but I found that difficult to – for him to say that straight-off, and, you know, to deal with it, that thinking, 'Well, he's going to freeload off us.

If you're not really into group work, you can easily ride on people's grades and other people's efforts, which that's the kind of the bit that gets me.

5.4. Emergent Theme 3: Assessment Technique (AT)

Several students commented how much they enjoyed the opportunity to be assessed on something other than the more traditional essay or exam. One female student said, “It was really cool to use a different media” and “I found it quite cool that you could go out and take footage, and take photos and things. It was quite good.” Another said that “the group assignment was really fun, and it was really cool to use a different media.” Several also commented on how they appreciated the practical nature of the work as discussed earlier.

Academics like Anderson (2013), Coe & Smyth (2010), and Jarvis, Dickie, & Brown (2013) have noted the benefits of using such creative ATs like filmmaking, serving as tour guides and other multimedia outlets in geography courses.

5.5. Emergent Theme 4: Facilitation

Several items arose from student comments concerning the way in which the group project was conducted or facilitated. Four areas relating to facilitation can be identified as (a) group formation, (b) topic selection, (c) peer interactions, and (d) supervision and instruction.

Teaching assistants assigned group members from amongst those registered in a particular lab section ensuring a common meeting time. Students identified and discussed a variety of methods for the formation of groups and their preferences towards each.

One male student advocated for groups to be formed by stratification based on similar backgrounds.

Like you'd get a whole lot of Geology students, that ----- and their interpretation of the environment will be completely different than a lot of whole social geographers. Even if they got the same question, but at least they could all work together effectively because they had that same knowledge base.

Most students dismissed this idea in favor of capitalizing on the diversity of group members' skills. One female student suggested, "Looking through what their backgrounds are and like what they've studied before" to select students that will complement or "benefit each other."

Student comments did not favor the self-selection of group members.

I don't think that really works, because then you get people that get left out, and it's just like school, being the kid doesn't get picked for the sports team, isn't it, like I don't want that guy because I've seen his grades from two years ago, and he got Cs. I'm not going to choose you in my group, you know, I'm going to go for the people that I know have got good grades. When you get to the third year, quite often you do know people that are better than other people at essay – writing.

When asked directly if students preferred to self-select their own groups or have it selected for them, the majority of respondents preferred for the group members to be selected for them as it was for this assignment.

I think it's better just for someone to choose.

It's good having them decided for you.

I also thought the way the groups were chosen was good, because for another Geography subject I'm doing, we were just given the class list, and it was A, B, C, D and A, B, C, D, and trying to find a time for each group to work together was difficult because we all had different timetables, but because it was done with this course on already an allocated time slot was very easy to find time to work together.

While students preferred to be assigned into a group, they preferred the autonomy to select their own topics to work on.

A common thread throughout the group work assessment was interpersonal skills. As discussed in the Transferable Skills section previously, students commented on the challenge of facilitating peer interactions. One male student said that "it can be an intimidating environment" where some may be uncomfortable speaking and getting their opinions heard. One group indicated that they a smaller group size would have been easier to manage.

Just it seems a lot more manageable, because I know my group for this, which had five people allocated to it, we didn't hear from two of them at all, and then like ----- so it was just three of us, but we were waiting hearing from these other people, and you just never heard back. It's really hard to like coordinate that many people I think.

Diversity of experiences was expressed by students from different groups with respect to their initiative to self-manage and their skills with peer facilitation. One female student shared that her group intentionally set out to capitalize on the diversity of its members.

My group did that within ----- we decided that we asked questions of each other, "Okay, where's your strengths? Where's your weaknesses?" And we allocated within ourselves, but we don't report that to the instructor. Did your group report it to the instructor?

It is unclear from this study why and exactly how some groups may have been more successful at self-management or what the course description calls collaboration or the ability to "direct a project with limited supervision." No student indicated that they had formal training in group dynamics, group communications, negotiation skills, or how to work in a group. Virtually all had been assigned group work in other courses, and some acknowledged an increase in autonomy as they progressed through university. They generally acknowledged that working as a group was expected of them upon graduation.

If employers expect graduates to be good team members, and if universities expect students to develop team-working skills, and if instructors expect students to be successful during group projects, it behooves the curriculum designers to provide space for instruction and skill development in this area. A female student states clearly that she "think[s] that more preparation is needed" in the form of "teaching people how to work in groups" if they are going to be successful team members and team leaders.

Dewey (1938) advocates instruction that includes experiences like the group project described here. He tells us that instructors must carefully and deliberately construct experiences that build on knowledge and skills consistent with defined outcomes where students reflect deeply in order to activate learning. Combining knowledge about group work, building on previous experiences with group work, and reflecting on success and failures with group work increases a student's learning and proficiency in this arena. A female student highlights this point saying, "I think it's good to have bad experiences as well... I learned really through trial and error what worked and didn't... I really mucked it up, but I'm kind of happy I did, because I learned a lot from it."

5.6. Emergent Theme 5: Grading

A female student hesitantly acknowledged the benefits of group work while unabashedly pointing to the biggest downfall saying, "Yeah, I think the issue is that some group work is necessary, but the issue is with the assessment." Two points dominated the comments concerning grading: (a) shared grading or the idea that everyone in a group shares the same grade, and (b) peer assessments.

When discussing shared grades, many students voiced discomfort in the process, primarily relating to what Falchikov (2005) calls parasites, free riders, or social loafers.

It's not what gets me about group work; it's not the working with people, it's the fact that my grade is dependent not on them as such, like a lot of it comes down to them, and it's luck of the draw. It's like, it's – you know, this group I've got is the difference between A and a B-grade for my paper, and that's going to follow me around for the rest of my life kind of thing.

At the end of the day, like you're in a group – you're in a group like assessment, and even though like work may be put out that you're not happy with, or something, you sort of – as part of the group, it's your job to voice your opinion, like your job to be able to like say where you stood and stuff, like if something goes out that you're not happy with, and you haven't said anything, like I suppose you haven't really fully sort of gotten into the whole group style of it, like we're meant to work together and everyone's opinions should sort of be taken.

You may have one person in the group that, say, really, really tried, and always showed up, but just did a terrible job, you know, but they tried, and that person is being graded on par with you, that – or with someone else that did excellent work, you know what I mean? And ... so for those two people to be graded the same, or if they are graded differently, how does he figure out, you know, who did what, and who deserves what grade?

When asked, several students indicated that they did not fully support the shared grade concept for the entire assignment. Indications were to add an individual written component to the already established shared grade for the presentation and peer assessments.

Part of the assignment is marked as a whole, and then the other part is an individual, and that way it's like so you know you write an essay at the end... whereas if you had to do a write-up yourself, you'd learn a lot more, and so half of it, you know, half of it's marked individually.

Biggs and Tang (2007) suggest that students benefit from being involved in setting assessment criteria, selecting the evidence, and making summative judgments as both a teaching/learning activity and as a method of assessing against ILOs. They find that the submission of individual reflective papers helps assess a given student's overall understanding of group projects.

Student comments supported peer assessments, albeit there was discussion about how best to go about it and what weighting they should hold.

I think that could get kind of awkward deciding between your group though who gets some – like what percentage, like, in our group, (inaudible) group, and one of our members like had an – I don't know, had an obvious like learning impairment, that the lecturer or our tutor like didn't tell us about, like it was ... it was quite obvious, and so when it came to divvying it up at the end, I don't know, it was just kind of awkward, but we just split it anyway, because that was just the fair thing to do, but, really, four of us did most of the work, but we just felt that.

Like there's always issues with who does what in a group, and, sometimes, you could be doing a large majority of the work, but you still feel like you're not like pulling your weight in group. Maybe it's a personal thing but I always feel like I'm not quite doing enough, but maybe I'm –

I'd rather see more percentage on like my individual work, than having heaps of my

course percentage depending on other people as well as myself.

Lejk and Wyville (2001) find that secret peer assessments without self-assessments yield more discriminating results. When engaging in peer assessments, it is beneficial to allocate time to engage and train students in the process (Falchikov, 2007).

5.7. Conclusion

The example group assessment discussed in this chapter was conducted much the same way a disaster exercise is. It was directed towards specific outcomes to quantify not only knowledge about a subject but also the skills in execution of a knowledge based project. Like an exercise, this assessment looks specifically as a set of objectives and does not account for the entire program. The assessment described here serves to lay the groundwork from which additional research may contribute. Having said that, the student's voices have spoken.

Students indicated that they appreciated the practical nature of the group assignment, recognized the benefits of working in a team environment, and liked the ability to express themselves creatively. It is reported that the facilitation of group selection, topic determination, peer interaction, and grading influences the overall experience and learning. Considering student data and previous research, the process of connecting the AT is at the center of all the emerged themes.

In the next chapter, the reader will find an integration of constructive alignment and theories discussed in Chapter 2, the knowledge and skill areas identified in Chapter 4, and some of the aspects of assessment discussed in this chapter.

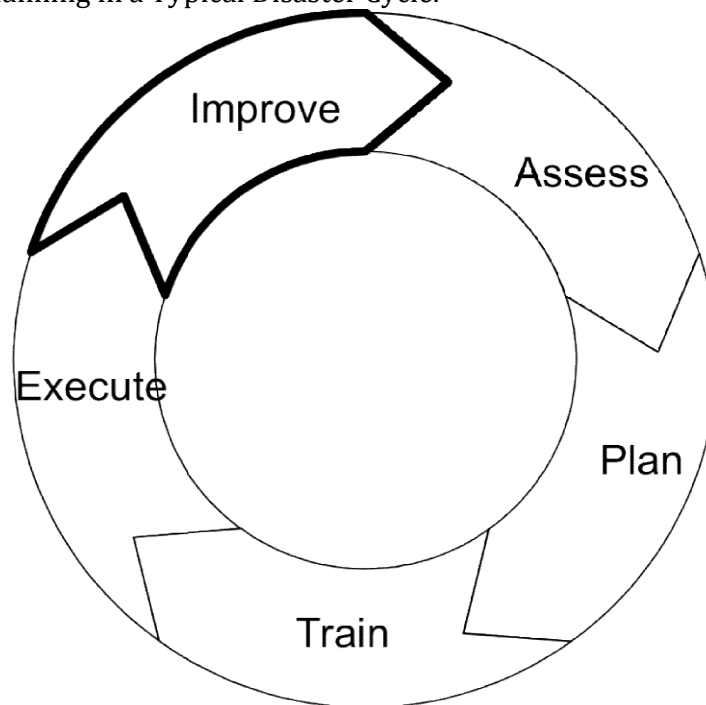
6. Improve: Curriculum

To the young mind everything is individual, stands by itself. By and by it finds how to join two things and see in them one nature; then three, then three thousand; and so, tyrannized over by its own unifying instinct, it goes on tying things together, diminishing anomalies, discovering roots running under ground whereby contrary and remote things cohere and flower out from one stem. It presently learns that since the dawn of history there has been a constant accumulation and classifying of facts. But what is classification but the perceiving that these objects are not chaotic, and are not foreign, but have a law which is also a law of the human mind? The astronomer discovers that geometry, a pure abstraction of the human mind, is the measure of planetary motion. The chemist finds proportions and intelligible method throughout matter; and science is nothing but the finding of analogy, identity, in the most remote parts.

Ralph Waldo Emerson⁴³

If disaster exercises are designed to evaluate capabilities, surely there is a mechanism to make changes or improvements. An end of exercise report or after action report is exactly that. It provides the opportunity to identify best practices, areas for improvement, and make recommendations (MCDEM, 2009, p. 61).

Figure 14
Improvement Planning in a Typical Disaster Cycle.



⁴³ A quote from *Essays* [HTML version] by R. W. Emerson, 1907, p. 23. Retrieved from <http://www.gutenberg.org/files/16643/16643-h/16643-h.htm>

This chapter serves as a discussion of how a degree or program-wide curriculum can be improved by aligning intended outcomes and strategic initiatives. It uses Biggs and Tang's (2011) principles of constructive alignment to look at a curriculum based on the overall vision and graduate profile of a university. It works from a student-centered perspective recognizing that Emergency Management graduates require a wide variety of qualities, knowledge, and skills as represented by the attributes identified in this study. It looks at alignment at the institution, program, and course levels.

Information presented here is not intended to dictate what or how individual courses should be organized, delivered, assessed, what they should be titled, or what they should teach. A sampling of course level intended learning outcomes (ILOs) is offered as an illustration of how attributes may be woven through the curriculum. The focus here remains on degree level and is offered for discussion.

6.1. The Institutional Level

Most higher educational institutions have a mission statement that includes generic language about the ILOs for students, followed by a list of student expectations in the form of a graduate profile or graduate attributes (Stefani, 2009). Using the principles of constructive alignment, these institution-wide statements serve as a starting point for integrating curriculum.⁴⁴

At the University of Canterbury the vision statement, "People prepared to make a difference" (Carr, 2009, p. 1) has been adopted that guides the institution. To support this vision, the university has identified the following five components of a graduate profile.

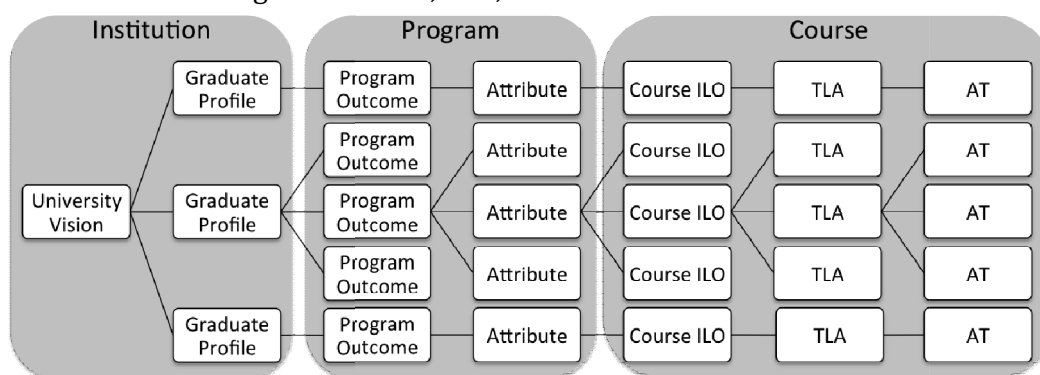
- Competent in a core academic discipline
- Work-ready and entrepreneurial

⁴⁴ See the National Institute for Learning Outcomes Assessment's Degree Qualification Profile at <http://degreeprofile.org> for additional information.

- Ready and willing to play an active role in their communities
- Globally aware and connected
- Knowledgeable and respectful of New Zealand's indigenous culture and capable of contributing to a bicultural society in a multicultural world (UC, 2014b)

Each component is seen as relating directly to the stated vision of the institution and providing a greater level of tangibility. With each progressive step from the institution, to the academic program, to the individual course, more specificity is derived as seen in Figure 15.

Figure 15
Institutional Wide Integration of ILO, TLA, and ATs.



As the university graduate profile supports the university vision, the program objectives support the graduate profile. Each progressive level supports the preceding in greater detail. Course ILOs relate to specific attributes and are addressed through the use of intentional teaching/learning activities (TLAs), which are, in turn, measured with assessment tasks (ATs). Figure 15 outlines this progression in a simplified form. It is simplified, in that a single AT can be used at the end of multiple and diverse TLAs, multiple course ILOs can relate to multiple attributes, and multiple attributes can be addressed in multiple program outcomes. This cross utilization can progress up the chain.

A practical example will help illustrate the point. For this purpose, the vision and set of graduate attributes of the University of Canterbury, serving as the degree granting

institution for the researcher, will serve as an example to guide the discussion on alignment of curriculum at the program level in the next section.

6.2. The Program Level

Using the first graduate profile from the previous section, “competent in a core academic area,” a program outcome would provide greater specificity to this component. An Emergency Management degree program may address this by developing a program outcome that includes the level of knowledge required, as discussed by Bloom (1956), and the type of knowledge. It may read, “Explain the conceptual framework and contextual practical skills of the Emergency Management profession as they apply in various career tracks.” This program outcome addresses not only knowledge but the synthesis of knowledge. It includes the application of skills, requiring students to (a) understand concepts and (b) be able to apply what they know. Attributes like **SKA02-assessment**, **GKA01-communications**, **PC03-soft skills**, **BM03-personnel management**, and **PD01-collaboration**, from all five domains are required to meet this program outcome.

To address the graduate profile, “work-ready and entrepreneurial,” a program may require multiple outcomes. These may include:

- Critically analyze the policies, regulations, and practices of Emergency Management and apply the practical skills to manage real-life situations and solve current problems.
- Communicate effectively as a professional with diverse stakeholders in real-life Emergency Management situations.
- Operate effectively as a team leader and team member in real-life Emergency Management situations.

Each program outcome addresses a point of the hierarchical level of knowledge and is linked with corresponding attributes. Table 66 provides a sample of how a graduate profile can be supported by program outcomes and attributes.

Table 66
Attributes Mapped to Program ILOs.


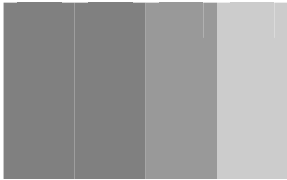




	Specific Knowledge Areas										General Knowledge Areas							Personal Characteristics				Business Management			Philosophical Dimensions			
Academic	Assessment	Community	Risk Management	Emergency Management Area	Phases	Planning	Regulatory Environments	Roles	Technology	Communications	Facilitation	Persuasion	Political Intelligence	Cognition	Leadership	Management Skills	Career Focused	People Related	Soft Skills	Stress Tested	Work Ethic	Administration	Benefits and Finance	Personnel Management	Collaboration	Coordination and Cooperation	Delegation	Flexibility
1. Competent in a core academic discipline																												
a. Explain the conceptual framework and contextual practical skills of the Emergency Management profession as they apply in various tracks.																												
✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓			✓			✓	✓	✓	✓			
2. Work-ready and entrepreneurial																												
a. Communicate effectively as a professional with diverse stakeholders in real-life Emergency Management situations.																												
	✓									✓	✓				✓	✓			✓						✓			
b. Critically analyze the policies, regulations, and practices of Emergency Management and apply the practical skills to manage real-life situations and solve current problems.																												
✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓			✓							✓		
c. Operate effectively as a team leader and team member in real-life Emergency Management situations.																												
	✓									✓	✓				✓	✓			✓						✓			

6.2.1. Implementation. At the program level, much can be done to facilitate a student-centered curriculum. It is important to consider many factors that transcend individual courses and contribute to the overall program outcomes. Sequencing, relating, and assessing knowledge, along with scheduling, are just a few examples worth discussing.

6.2.1.1. Scaffold. Wood, Bruner, and Ross (1976) found that students can “solve a problem, carry out a task or achieve a goal which would be beyond his unassisted efforts” (p. 90) with the structured help of a tutor. In a process they termed scaffolding, students are guided through a process of problem solving that focuses on success where tutors can simplify tasks, highlight key features, provide support, and model solutions as needed. In a similar way, Vygotsky (1978) describes a process of individual and group growth through guidance. Vygotsky defines differences between the “actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (p. 86) as the zone of proximal development.

Wass, Harland, and Mercer (2011) used the concepts of the zone of proximal development and scaffolding to restructure an entire multi-year university curriculum to place greater attention on a student’s ability to think critically. They found that increasing student-student and student-teacher interactions supported their aims. They also implemented a number of problem solving exercises in the first year that were more directed and structured. As students progressed through the curriculum, exercises evolved into more self-directed, original research projects.

Table 67
Knowledge, TLA, and AT Curriculum Progression.

Knowledge Dimensions	TLA	AT	First → Final Year
Knowledge	Analogies Examples Illustration Lecture Video	Define List Repeat Record Write	
Comprehension	Discussion Question Report Student presentations Writing	Describe Discuss Explain Express Restate	
Application	Exercises Practice Role Play Simulations Student teaching	Apply Dramatize Demonstrate Illustrate Interpret	
Analysis	Case studies Discussion Exercises Incidents Questions	Analyze Criticize Debate Experiment Question	
Synthesis	Case studies Develop plans Exercises Projects Simulations	Create Design Manage Organize Plan	
Evaluation	Appraisals Critiques Exercises Projects Simulation	Assess Evaluate Judge Rate Revise	

Using Bloom's (1956) progression of knowledge dimensions, it is reasonable to expect a program level curriculum to evolve beyond the simple acquisition of knowledge. While knowledge is fundamental, the focus on defining, describing, identifying, memorizing, reciting, recognizing, or stating is representative of superficial learning. Its use may be best aligned with first year students or lower

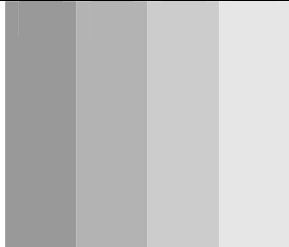
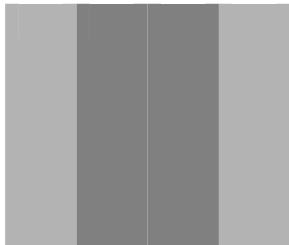

level course offerings. Curriculum should incorporate a progression to higher-level understanding to include comprehension, application, analysis, synthesis, and evaluation as discussed in previous sections. Table 67 combines knowledge dimensions, TLAs, and ATs across a multi-year curriculum. Shaded boxes indicate a progression with darker areas representing more of a focus in that area during that time frame.

6.2.1.2. *Format.* How a multi-year curriculum is laid out provides opportunities to enhance learning. Focusing on the program level, connectivity can be seen in varying degrees between content in individual courses. This content can be presented in parallel, in a complementary fashion, interdisciplinary, or integrated (Jacobs, 1989). Fogarty (2009) describes ten views for integrating curricula that address (a) a single discipline, (b) multiple disciplines, and (c) in the mind of the learner. She notes that most higher education courses like Geology 101 or Chemistry 201 fit neatly in discipline-based departments and semester length timetables. The problem is that student learning is not compartmentalized in this way. Students learn through authentic experiences over time.

Linking content or providing bridges between courses provides greater connections, leading to cognitive understanding and deeper learning. Some challenges exist for curriculum designers who work to provide such linkages for students (Anderson, 2013; Pasadeos, 2000), but success can be found in higher education programs in business (Sroufe, & Ramos, 2015; Weber & Englehart, 2011), law (Leiman, Deborah, & Milne, 2015), medicine (Briggs, Patston, Brown, Jurgens-Toepke, Strotman, Haley, Doubleday, 2015), and the sciences (Beichner, Bernold, Burniston, Dail, Felder, Gastineau, Gjertsen, and Risley, 1999).

In much the same way as the knowledge dimensions described earlier, an interconnected curriculum can be introduced and progressed through the curriculum. Table 68 depicts how this could look with sample formats and attributes across a multi-year curriculum. As before, the shaded boxes indicate a progression in integration with darker areas representing more of a focus in a given year. This does not necessarily imply that attributes are only addressed in a given year as many may require multiple and diverse exposures.

Table 68
Format, Attribute, and Integrated Curriculum Progression.

Integrated Curriculum	Format	Attribute	First → Final Year
In single disciplines Cellular Connected Nested	Course	Assessment Communication EM area Risk management Planning Regulatory environment	
Across disciplines Sequenced Shared Webbed Threaded Integrated	Block Internship Multi-course group project Multi-credit block	Academic Cognition Communication Community oriented ethos Planning Technology	
In mind of learner Immersed Networked	Immersion	Collaboration Community oriented ethos Facilitation Leadership Planning	

An example of an integrated component of the curriculum within a single discipline is a first year Emergency Management course that focuses on planning through the development and evaluation of an exercise. The exercise is used as a class project that provides a format for the evaluation of a communities hazards,

capabilities, organization, and structure. An evaluation of a conducted exercise could serve to reflect on the feasibility or adequacy of a plan to meet the exercise objectives. Such a course has the potential to address multiple attributes such as **SKA02-assessment, SKA03-community oriented ethos, SKA05-Emergency Manager area, SKA07-planning, and SKA09-roles.**

Working across disciplines, a sample course that focuses on crisis communications could enlist the support of multiple programs to develop educational mitigation materials. Students from a chemistry course could provide technical information on a toxin, public health students could provide information about the effects of exposure, engineering students could provide information about control mechanisms, and even marketing or visual arts students could provide support with the layout. Here there may be more attention placed on **GKA01-communications, GKA02-facilitation, and GKA07-management skills.**

The best example of an integrated curriculum in the mind of the learner is the immersion discussed in Chapter 2. Most likely occurring on or near the final year, an immersion program could encompass an entire term or semester and account for multiple course credits or points in the areas of project management, leadership, professional and personal development, ethics, and one of response, recovery, or mitigation. Such an offering would solely commit students for its duration not allowing them to enroll in other courses. An immersion program would serve as a practical culmination of knowledge acquired and skills developed up to that point. Targeting the synthesis of knowledge, such a semester offering uses integrated means to address curriculum across disciplines. It may include the planning of a response or project in a local or distant community that includes assessing needs, developing a proposal, budgeting, arranging logistical resources, and upskilling. The

operation would be conducted in the field for several days or weeks where individuals share responsibility for various functions and are given the opportunity to develop their leadership skills. In-field modeling, scaffolding, and mentoring could be provided on a group and individual basis as required. Students would be responsible for debriefing, evaluating, making recommendations, post-deployment logistics, and documentation. Such a program would integrate most, if not all, of the knowledge and skill based attributes as well as addressing those related to interpersonal qualities.

Hartzler (2000) and Vars (1991) found that students in integrated curriculums performed better on assessments and below average students benefitted the most. The integration of a curriculum is best thought of in conjunction with principles of constructive alignment where, at the programmatic level, outcomes can be identified and strategies developed that cross individual courses and academic years.

6.2.1.3. *Assessment.* The academic literature is fertile with assessment techniques that include standardized tests, competency appraisals, student projects, and employment surveys (Angelo & Cross, 1993; Brown & Glasner, 1999; Broxham & Boyd, 2007; Peterson & Einarson, 2001; Ruhland & Brewer, 2001). It may be unconventional to think about assessments from a degree level, but an integrated curriculum leaves a lot of possibilities to consider. End of program portfolios, multi-course projects, multi-course peer assessment, and student involvement are just a few options.

Before exploring how assessment may be considered at the program level, remember that Chapter 2 provided information on the role of assessment for learning, as learning, and of learning. It also touched on group, peer, and portfolio

assessments. There are at least five additional points that underpin this discussion that warrant the reader's attention.

6.2.1.3.1. *Purpose.* The first point is the purpose. Cameron (1963) notes "not everything that can be counted counts, and not everything that counts can be counted," (p. 13). So why do instructors conduct assessments? Earl (2013) finds that assessments can be used to guide, to inform or monitor, and to quantify. The simple reality is that it is expected and most institutions require it.

The commonly cited purpose for assessments is to verify knowledge retention, but what constitutes retention? Is it good enough to retain information long enough to "pass" a midterm exam or comprehensive end-of-course exam? Are students in their final year expected or required to retain any of the information from previous courses? Questions about the level of understanding and what retention actually means in an Emergency Management degree program need to be addressed.

6.2.1.3.2. *Timing.* Relating to the purpose of assessments is the timing of the assessment. Assessments may be conducted during the learning phase as a formative tool. Summative assessments may be conducted at the conclusion of the program in the form of a comprehensive exam, portfolio, or exhibition. They may also be used in combination (Van Der Vieuten & Wijnen, 1996).

6.2.1.3.3. *Medium and Execution.* The type of AT used and the way in which it is structured plays a role. Chapter 5 highlighted the use of a group project where student feedback noted the impact that the selected AT had and the way the AT was facilitated. Lessons from this course may be extrapolated to the program level in the implementation of a progressive structure as described in Table 67 and where scaffolding may be used. To achieve this, more individualized assessments may be the focus at the beginning of the program, yielding to more

cross-disciplinary assessments towards the latter years. Likewise, the use of a group project may be more heavily supervised in the first year and more self-directed in subsequent years.

6.2.1.3.4. *Power.* In any assessment, it is important to consider the role power plays. One may take for granted that there is a question to ponder. According to Graves (1919), tradition dictates that students learn and teachers teach. Students take tests and teachers grade. These are the traditional roles dating back to the Middle Ages.

A power dynamic in terms of ATs is viewed as having two distinct facets: the design and the marking. Under the heading of design, one should consider the criteria and the weighting. Marking refers to the scoring or allocation of points towards the criteria. The power dynamic relates to who determines the design and marking.

Biggs and Tang (2007) suggest that students benefit from engaging with the development of ATs in multiple ways. Students may determine the assessment criteria and the evidence to be presented. As for marking, power can be wielded by a range of actors or shared amongst them. These actors may include the student himself through self-assessments, the course instructor, or others. These others may be comprised of peers from within the class, peers from other courses in or outside of the program area, or a targeted audience. In the example of a group project tasked with developing a multimedia presentation for a specific demographic, like business leaders or elected officials, members of this target audience may be engaged to provide feedback on the group's efforts and effectiveness. Such a strategy may require training of those providing scores (Falchikov, 2007), but who

better to contribute to a practical-problem-based exercise than a professional educated in that area?

6.2.1.3.4. *Content.* The final note to add to the discussion about assessments concerns their content. Specifically, this refers to the key elements to be graded and the evidence supporting those elements. Although alternatives exist (Grainger & Weir, 2016), these pieces are often arranged in a rubric (Reddy, & Andrade, 2010) that may target specific attributes or components of the curriculum (Mansilla, Duraisingh, Wolfe, & Haynes, 2009). It has been established that student involvement is beneficial (Biggs & Tang, 2007) and teachers find them a useful resource (Carbery & Leahy, 2015; Menéndez-Varela & Gregori-Giralt, 2016). While most commonly used in an individual course, a rubric can be employed across the curriculum to assess larger issues such as employability (Riebe, & Jackson, 2014). The key point in addressing the content of an AT is transparency in grading. (Jonsson, 2014).

Addressing ILOs, TLAs, and ATs at the program level is important in aligning curriculum. The next section continues this discussion while focusing on the course level.

6.3. The Course Level

A review of more than 500 Emergency Management degree programs found that there is little commonality of what is being taught (Hurtes, 2011a). The discussion of courses offered in the following pages provides a sample of ILOs and sequencing based on the attributes described previously and principles of constructive alignment.

Describing an entire curriculum is beyond the scope of this work, however a list of courses is provided, with a description of a sampling of four that serve to illustrate

alignment. These four courses are described in terms of how they link up the chain to specific attributes and support program level outcomes, and institutional graduate profiles and a vision. Each course is also illustrated as to how they apply to knowledge dimensions, TLA, and AT.

6.3.1. Inventory of Courses. An undergraduate Emergency Management curriculum is more than a list of course titles. It is a mix of methods, experiences, and outcomes that connect students and content to a set of outcomes in the form of a graduate profile. This section identifies 12 courses in Table 69 as part of an undergraduate curriculum and expands on four to include ILOs.

Table 69
Sample Courses

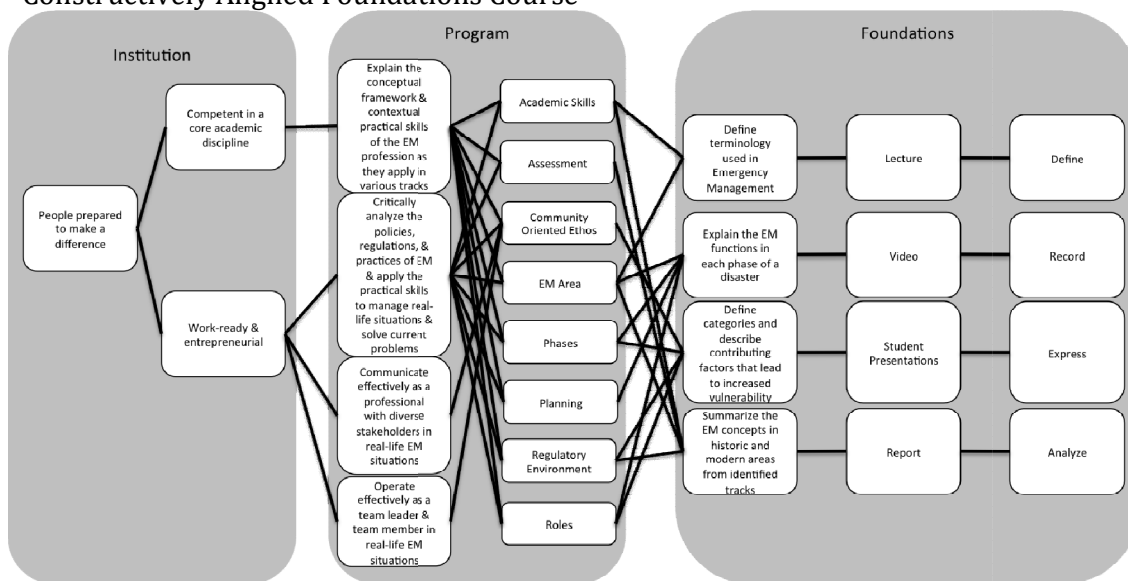
Course
Foundations
Hazard Science & Mitigation I
Operational Context
Disaster Culture
Emergency Management Administration
Current Events
Disaster Research
Hazard Science & Mitigation II
Organizational Behavior & Theory
Policy & Politics
Practicum
Seminar

A foundations course is intended to provide an overview of the Emergency Management discipline. It provides an introduction to the diverse functions, roles of stakeholders, nomenclature, historical context, organizational systems, regulations, standards, and concepts. ILOs for such a course include:

- Define terminology used in Emergency Management.
- Explain the Emergency Management functions in each phase of a disaster.
- Distinguish the roles and benefits of formal and informal actors in each phase of a disaster.
- Summarize the Emergency Management concepts in historic and modern areas from identified tracks.

Discussions, videos, reports, and a limited number of lectures may be among the TLA. Students would be expected to define terms, express the roles of stakeholders, record the benefits of actors, and describe concepts. Figure 16 shows how a foundations course addresses **SKA01-academic skills, SKA02-assessment, SKA03-community oriented ethos, SKA05-emergency management area, SKA06-phases, SKA07-planning, SKA08-regulatory environment, and SKA09-roles**. A culminating activity of the course would involve students serving as players in an exercise designed and conducted by more senior students, perhaps from the practicum course.

Figure 16
Constructively Aligned Foundations Course



A course on disaster culture is intended to introduce diverse social issues and perspectives of the Emergency Management discipline. It addresses gender, disability, poverty, vulnerability assessments, culture, capacity assessments, the Humanitarian Charter and International Humanitarian Law. ILOs for such a course include:

- Describe the Humanitarian Charter and other non-binding and binding instruments addressing the ethical treatment of individuals.

- Describe the roles, responsibilities, and benefits of formal and informal community based actors in each phase of a disaster.
- Apply concepts of a vulnerability assessment and needs analysis to develop a community specific, culturally appropriate public education campaign.
- Define categories and describe contributing factors that lead to increased vulnerability.

Examples, discussions, student presentations, and case studies may be among the TLA. Students would be expected to define ethical standards, discuss the roles and benefits of actors, express a culturally appropriate public education campaign, and analyze factors that lead to vulnerability. Figure 17 shows how a disaster culture course addresses **SKA02-assessment**, **SKA03-community oriented ethos**, **SKA06-phases**, **SKA08-regulatory environment**, **SKA09-roles**, **GKA01-communications**, and **PC02-people related**. A culminating activity of the course would involve students working in a group to design and present a public education campaign specific to a select audience, addressing a single hazard, and focusing on a defined phase. A visual product, oral presentation, and a written description that describes how the campaign addresses the concepts presented in class would be required.

Figure 17
Constructively Aligned Disaster Culture Course

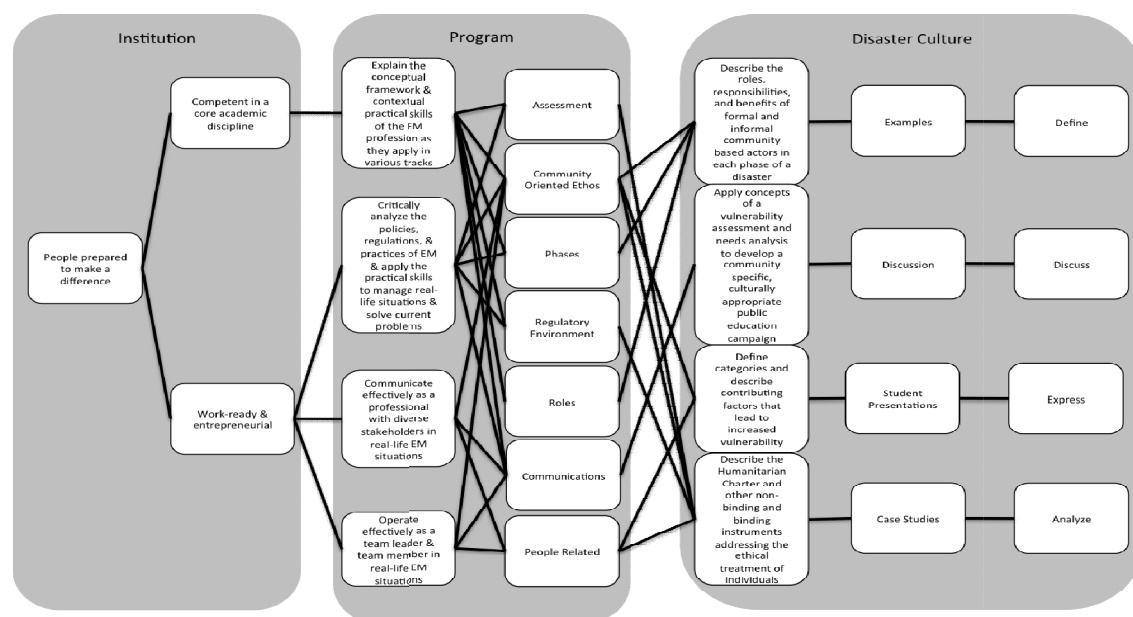
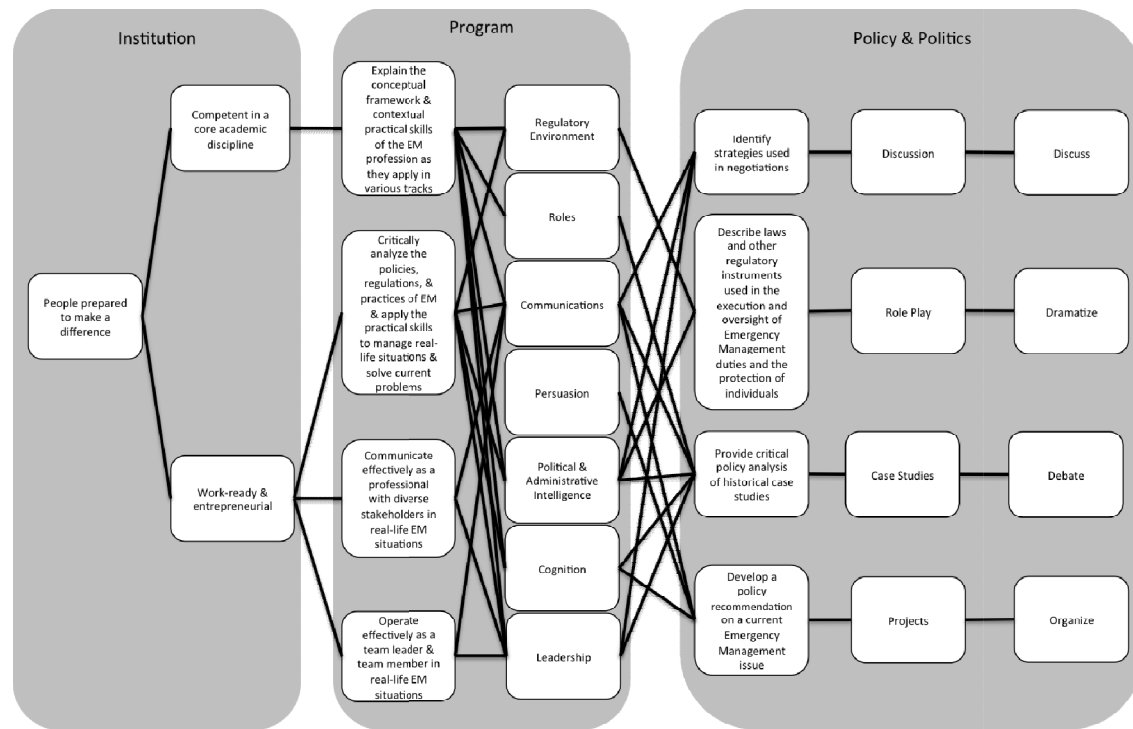


Figure 18
Constructively Aligned Policy and Politics Course



A policy and politics course is intended to expose students to the complexity of legal and interpersonal issues of governance. It provides an introduction to laws, regulations, and standards, special interest, negotiations, persuasion, and decision making. ILOs for such a course include:

- Identify strategies used in negotiations.
- Describe laws and other regulatory instruments used in the execution and oversight of Emergency Management duties and the protection of individuals.
- Provide critical policy analysis of historical case studies.
- Develop a policy recommendation on a current Emergency Management issue.

Discussions, role play, case studies, and a group project may be among the TLA.

Students would be expected to discuss strategies, participate in a dramatization, analyze policies, and organize a concise policy recommendation within a group.

Figure 18 shows how a course on policy and politics addresses **SKA08-regulatory**

environment, SKA09-roles, GKA01-communications, GKA03-persuasion, GKA04-political and administrative intelligence, GKA05-cognition, and GKA06-leadership. A culminating activity of the course would involve students developing a position paper on a relevant Emergency Management issue, participating in a debate on that issue.

A practicum course is intended as a practical culmination of knowledge, skills, and characteristics developed throughout the degree program. It is an opportunity for students to organize, develop, execute, and evaluate a significant project as a group. The course is best delivered as an immersive block format. It has the unique ability to address real-life conditions in a practical setting. It provides a learning opportunity in stress management, soft skill development, and time management.

ILOs for such a course include:

- Examine After Action Reports to identify and address problem areas.
- Work together to select a class project, define the purpose, and identify the scope.
- Develop a written project plan and budget for the class project.
- Organize, manage, assess, and evaluate a class project.

Largely student directed, TLAs include case studies, plan development, and projects.

Students would be expected to analyze successes and failures from previous practicum projects, design a plan, and organize, manage, assess, and evaluate a project. Most, if not all, of the 29 attributes would be addressed in this course.

6.3.2. Course Sequencing. Courses are arranged in three sequential groupings that reflect a progression through the curriculum while also progressing through different knowledge dimensions and levels of integration as seen in Table 70. Part A courses represent knowledge that underpins the discipline and serves as a cornerstone to subsequent years. Part A courses would likely be found in the first or second year of an undergraduate curriculum and focus on knowledge acquisition

and comprehension according to Bloom's knowledge dimensions (1956). They should include an understanding of fundamental concepts and terminology, an understanding of the science of hazards and mitigation strategies, a range of operational context, and how disasters affect communities.

Part B courses, offered in the second or third year, focus less on knowledge acquisition and comprehension, in favor of application, analysis, and synthesis. Part B courses would include explorations of administrative functions, current local and world events, research methodologies and applications, and a greater understanding of the science of hazards and mitigation strategies. While providing intellectual study of Emergency Management concepts and theories, these courses address transferable attributes more so than Part A courses. They would include a greater use of group projects, student directed learning, and practical assignments in the form work integrated learning or work integrated education described by Coll and Eames (2004). They may well expand beyond a single discipline approach to across disciplines.

Part C courses are heavily reliant on the application, analysis, synthesis, and evaluation of knowledge. They cover organizational behavior and theories, policies and politics, an immersive practicum, and a culminating seminar course where students are encouraged to reflect on their learning and explore applications for their future. Part C courses should integrate across disciplines and in the mind of the learner.

Viewing a constructively aligned curriculum from the course perspective is but one way to approach this research. The 29 attributes identified in this study serve as a pivotal point in the creation and alignment of an Emergency Management undergraduate curriculum. These attributes serve as a bridge between the

institutional and course level perspective. In the next section, the same four sample courses will be used to describe the alignment process from the attribute perspective.

Table 70
Course Inventory and Progression through Knowledge Dimensions and Level of Integration

Course	Knowledge Dimension	Integrated Curriculum
Part A Courses (years 1-2)		
Foundations	Knowledge & comprehension	Single discipline
Hazard Science & Mitigation I	Comprehension & application	Single discipline
Operational Context	Knowledge & comprehension	Single discipline
Disaster Culture	Knowledge & comprehension	Single discipline
Part B Courses (years 2-3)		
Emergency Management Administration	Comprehension & application	Single discipline
Current Events	Analysis & synthesis	Across disciplines
Disaster Research	Analysis & synthesis	Across disciplines
Hazard Science & Mitigation II	Application & analysis	Across disciplines
Part C Courses (years 3-4)		
Organizational Behavior & Theory	Application & analysis	Across disciplines
Policy & Politics	Application, analysis, synthesis	Across disciplines
Practicum	Synthesis & evaluation	In mind of learner
Seminar	Synthesis & evaluation	In mind of learner

6.3.3. Attributes in Sample Courses. Attributes make up the bulk of this study and as such, deserve some additional consideration when discussing curriculum. Just as a single ILO may support multiple attributes as illustrated in the preceding section, one attribute may be supported by multiple ILOs from one or more courses. Using the four sample courses from the last section, it can be said that the ILOs relate in greater and lesser extent to each attribute. That is to say that the foundations course may address **SKA03-community oriented ethos** at an introductory level, this course is more generally about **SKA05-emergency**

management areas. The disaster culture course primarily is about **SKA03-community oriented** ethos but with a heavy emphasis on **GKA01-communications.** The same can be said for **GKA06-leadership** in the other two courses. The policy and politics course teaches about **GKA06-leadership** styles while really focusing on developing **GKA05-cognition** as a central focus. The practicum course expects students to demonstrate **GKA05-cognition**, but is really a **GKA06-leadership** course. For this reason, four attributes are selected, each demonstrating a primary link to at least one of the sample courses as follows:

- **SKA05-emergency management area** from the foundations course
- **GKA01-communications** from the disaster culture course
- **GKA05-cognition** from the policy and politics course
- **GKA06-leadership** from the practicum course.

The **SKA05-emergency management area** attribute is most visible in the sample foundations and practicum courses. Concepts, terms, functions, and roles are first introduced in the Part A foundations course and then demonstrated as part of the Part C practicum. That is not to say that other courses do not provide depth to the **SKA05-emergency management area** attribute. Most, if not all, courses would expand on the information presented in foundations. For simplicity of discussion, comments here will be limited to the sample courses. Recalling from a previous section, the foundations course included the ILOs:

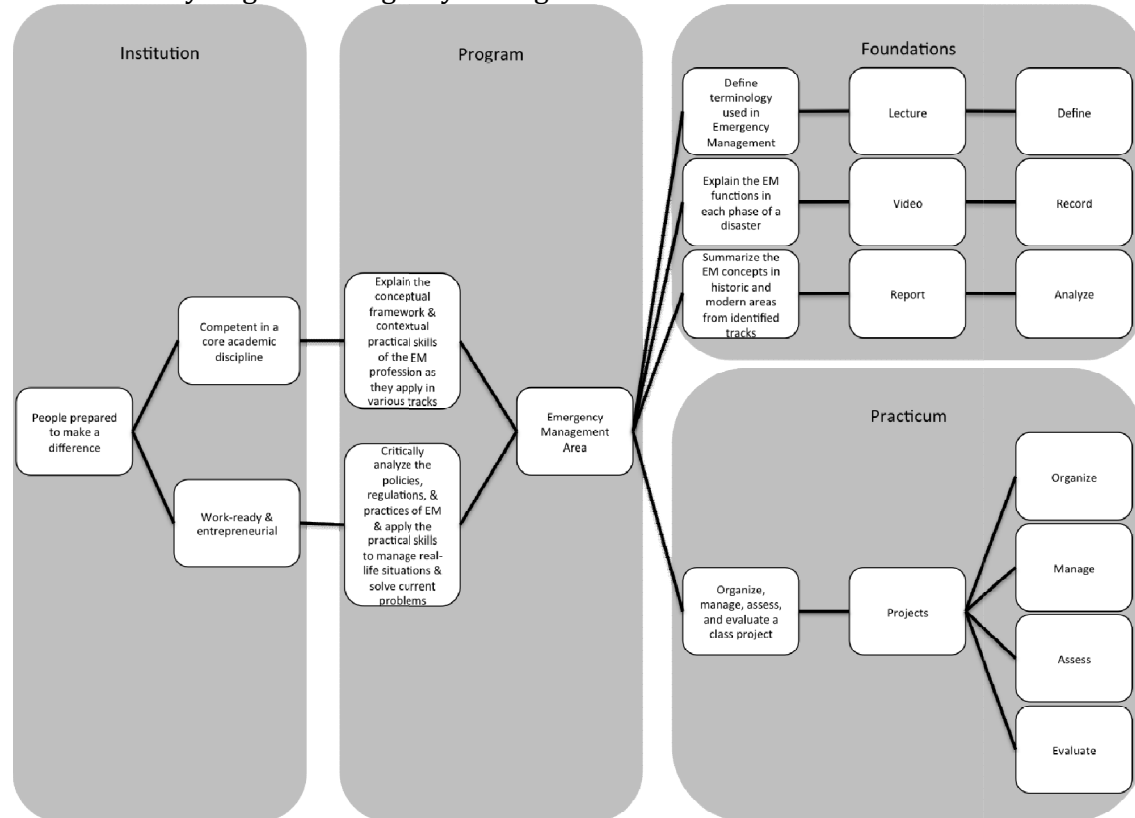
- Define terminology used in Emergency Management.
- Explain the Emergency Management functions in each phase of a disaster.
- Summarize the Emergency Management concepts in historic and modern areas from identified tracks.

Each of these outcomes directly supports the **SKA05-emergency management area** attribute. In addition, the practicum ILO:

- Organize, manage, assess, and evaluate a class project

is the demonstration of this knowledge in a practical setting. This is seen in Figure 19.

Figure 19
Constructively Aligned Emergency Management Area Attribute



The **GKA01-communications** attribute is found in multiple courses in written, oral, and visual forms. The Part A disaster culture course requires students to develop a defined message for a specialized audience using multiple modalities to meet the ILO:

- Apply concepts of a vulnerability assessment and needs analysis to develop a community specific, culturally appropriate public education campaign.

In the Part C policy and politics course, the **GKA01-communications** attribute is addressed in ILOs:

- Identify strategies used in negotiations.
- Provide critical policy analysis of historical case studies.
- Develop a policy recommendation on a current Emergency Management

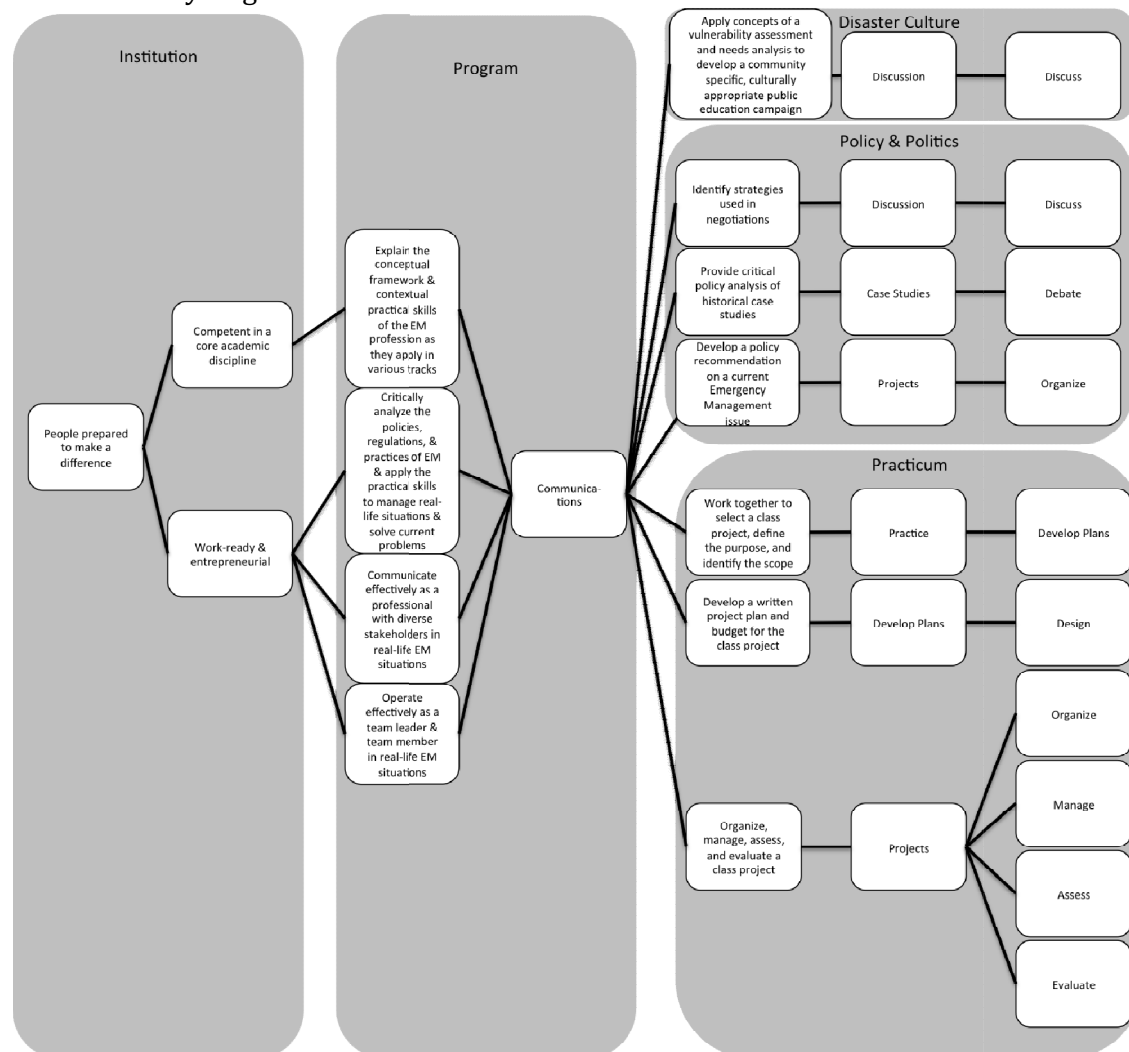
issue.

The Part C practicum course also addresses the **GKA01-communications** attribute in ILOs:

- Work together to select a class project, define the purpose, and identify the scope.
- Develop a written project plan and budget for the class project.
- Organize, manage, assess, and evaluate a class project.

It can be seen in Figure 20 how the **GKA01-communications** attribute is supported by course level ILOs and how it in turn supports program level outcomes.

Figure 20
Constructively Aligned Communications Attribute



The **GKA05-cognition** attribute is demonstrated in the Part C courses policy and politics as well as the practicum. As stated earlier, policies and politics largely address the knowledge side of **GKA05-cognition** through the ILOs:

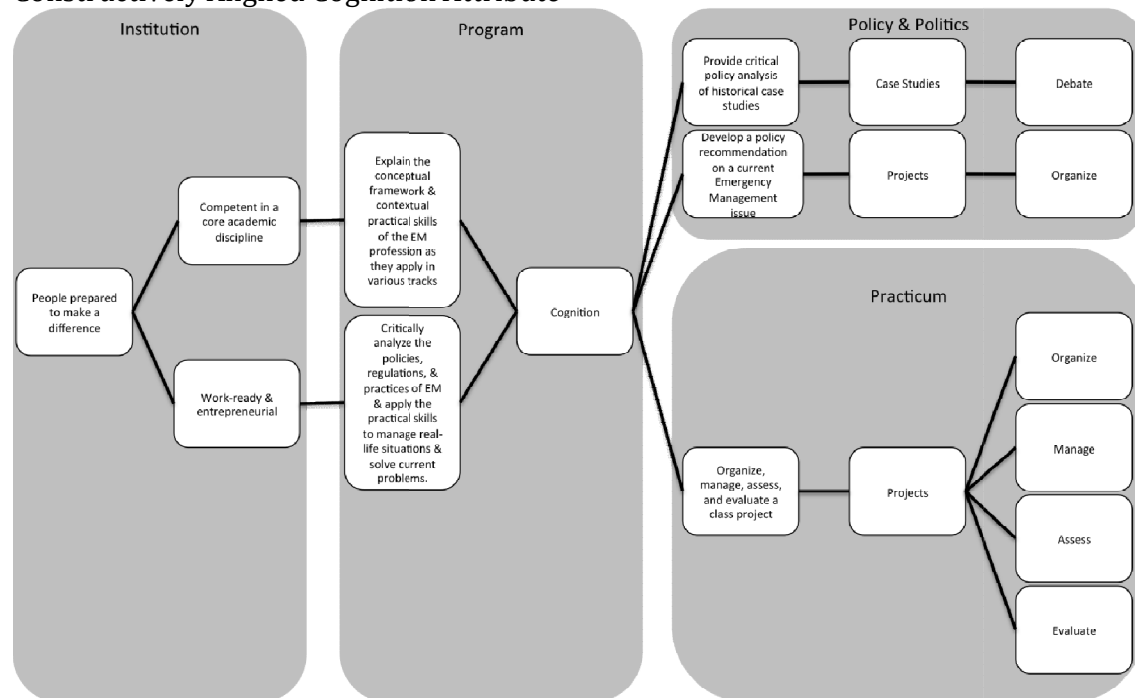
- Provide critical policy analysis of historical case studies.
- Develop a policy recommendation on a current Emergency Management issue.

while the practicum is more about skills and application as in ILO:

- Organize, manage, assess, and evaluate a class project.

This can be seen in Figure 21.

Figure 21
Constructively Aligned Cognition Attribute



Finally, the GKA06-leadership attribute is most evident in Part C courses. Like GKA05-cognition knowledge transfer primarily takes place during the policy and politics course through ILO:

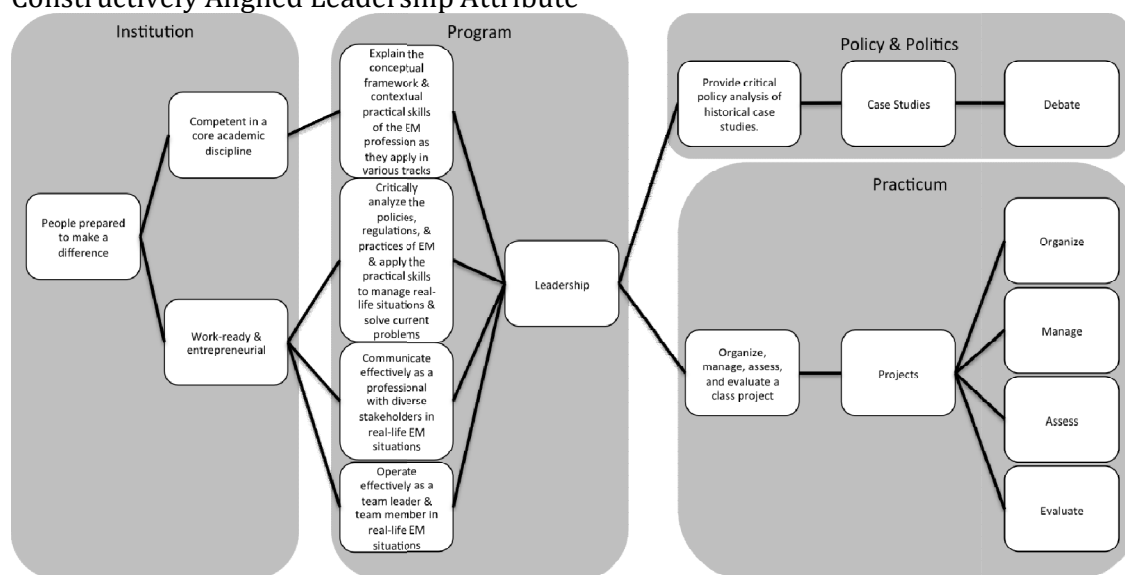
- Provide critical policy analysis of historical case studies.

Skill practice and development is a hallmark of the practicum and especially evident in ILO:

- Organize, manage, assess, and evaluate a class project.

Figure 22 shows how GKA06-leadership is supported by course level ILOs and how it supports the program level outcomes.

Figure 22
Constructively Aligned Leadership Attribute



6.4. Conclusion

Integrating curriculum at the institutional, program, and course level requires forethought and planning. Outcomes need to be directly linked at each level much like Matryoshkas or Russian nesting dolls. The vision of “People prepared to make a difference” is directly supported by five graduate attributes, which are supported, in turn, by program-level ILOs, which are supported, in turn, by course-level ILOs, TLAs, and ATs. Each level provides more and more detail while remaining true to the vision.

This chapter has identified many components to the implementation of an integrated curriculum. Designers should consider sequencing, formatting, and

execution. An understanding of purpose is required, as well as appropriate timing, and the power dynamic. Curriculum design is about the process of design.

7. Key Findings

The mind does not require filling like a bottle, but rather, like wood, it only requires kindling to create in it an impulse to think independently and an ardent desire for the truth.

*Plutarch*⁴⁵

Each of us is shaped in one way or another by what we experience and how that experience confirms or contradicts our current understanding. Those experiences may be influenced by the context in which they occur, specific features or content contained in those experiences, and the process in which they transpire. Watching the floodwaters rise, discussing current events, attending a seminar, watching a TED Talk, and attending university are all experience that shapes one's knowledge, the skills they acquire, and the personal characteristics they develop. These non-formal, informal, and formal educational experiences are of critical importance to our development and advancement.

Formal education has come under great scrutiny in recent years. Students demand value while some educators resist citing academic freedom. Recognizing that academic study and research will advance the Emergency Management profession even more, a university degree is required. Just as a community would invest in the time, intellectual capital, and needed resources to assess its situation, develop a plan, train, exercise, and make improvements on that plan, universities need to take the same efforts in developing high quality relevant degrees.

The development of a university curriculum requires explicit and intentional planning with progressive sequencing that leads to well defined, understood, and agreed upon outcomes. The successful development of such a curriculum draws

⁴⁵ A quote from *Moralia Vol. 1* by Plutarch, 1927, pp. 257-259. F. C. Babbitt (Trans.). Retrieved from http://www.loebclassics.com/nuncio/cofc.edu/view/LCL197/1927/pb_LCL197.i.xml

from post modern and constructivism theories as well as the experiential education field. Viewed in its totality, a curriculum composed of assessments, teaching and learning activities, degree content, program outcomes, and a graduate profile should be developed with the following key elements:

- Student centered
- Involve active learning
- Experiential
- Include student directed inquiry
- Problem based
- Practical
- Enhances employability
- Cooperative
- Develops transferable skills
- Based on critical inquiry
- Recognize, value, and capitalize on prior learning
- Integrate reflection
- Recognize the place of socially constructed knowledge
- Individually created

Each has its place in the philosophical underpinning and execution of a degree program outlined in this study.

Based in the front line of Emergency Management at the individual and community level, this research is informed by practitioners, their colleagues, and the people they serve. Observations from the field, described by Lincoln and Guba (1985) as natural settings, provide the foundation, and are supported by interviews to reveal a set of professional Emergency Management attributes. These attributes, combined with a process for implementation discussed in this research, contribute to the development of a student-centered curriculum.

This chapter takes a final look at the attributes of a successful Emergency Manager and their position in a higher education degree program. It looks at the process of education, with special attention to learning outcomes, teacher and student activities, and academic assessments. It recognizes that no process is

complete, whether it is disaster preparedness, curriculum design, or research, and hence provides areas for further investigation. Notwithstanding, the research presented here has wide reaching implications that are discussed.

7.1. Content

Phase I of this study identifies 29 attributes of successful Emergency Managers and groups them into five domains. Each attribute represents a distinct area of knowledge, set of skills, or personal characteristics. While not viewed in isolation, these attributes are often the culmination of many supporting concepts presented in Chapter 4 as supporting codes.

Ten attributes listed in Table 71 reflect areas specific to the Emergency Management profession. They include a wide area of knowledge and skills.

Table 71
Specific Knowledge Area Attributes.

	Attribute	Description
SKA01	Academic skills	Having a learned understanding based on formal study.
SKA02	Assessment	The process of gathering & analyzing information in order to inform understanding.
SKA03	Community oriented ethos	A disposition that recognizes the importance & benefits of a social construct of community where shared values, interest, & affiliations are celebrated & empowered.
SKA04	Risk management	The use of defined practices, procedures, structures & culture involved in identifying, assessing, analyzing, avoiding, eliminating, controlling, or minimizing negative events.
SKA05	EM area	Knowledge and skills uniquely applied or adapted to the field & practice of EM.
SKA06	Phases	The complex multidimensional process undertaken prior to execution in which what, how, when, & by whom questions are addressed in order to advance towards an agreed upon point.
SKA07	Planning	The complex multidimensional process undertaken prior to execution in which what, how, when, & by whom questions are addressed in order to advance towards an agreed upon point.
SKA08	Regulatory environment	A set of codes, laws, policies, rules, standards or other such instruments & mechanism that

SKA09	Roles	influence actions. This may also include a culture of such directory administration. The involvement and participation of organizations, whether regulated, voluntary, or spontaneous, should be understood & respected as a means to enhance disaster prevention, mitigation, response, & recovery.
SKA10	Technology	The practical use of a machine, method, piece of equipment, or software to accomplish a task.

Previous research shows that employers highly value generic skills over those that are discipline-specific (Bennett et al., 2000; Harvey et al., 2002). Data from this study reveals seven attributes in Table 72 that are more widely applicable than those in the previous table.

Table 72
General Knowledge Area Attributes.

	Attribute	Description
GKA01	Communications	The active process of constructing, transmitting, receiving, interpreting, & comprehending auditory, visual, & kinetic inputs in a way that conveys meaning. Communication is largely social & should recognize cultural differences & sensitivities.
GKA02	Facilitation	Working with people to assist in a process of advancement or moving forward of ideas or initiatives. Facilitation often focuses on the process & assumes a neutral position leaving advocacy or tactics to others.
GKA03	Persuasion	To prevail upon others to accept a point of view, adopt a belief, or induce behaviors by means of argument or reason.
GKA04	Political & administrative intelligence	Understanding and successfully navigating an institutional system towards mutually beneficial & community supported end.
GKA05	Cognition	The process of perceiving, recognizing, conceiving, reasoning, & judging something as to know it.
GKA06	Leadership	“Leadership is a process of social influence in which one person is able to enlist the aid and support of others in the accomplishment of a common task” (Chemers, 1997, p. 1).
GKA07	Management	The act of controlling decisions, often focusing on processes (planning, organizing, directing, & controlling) & resources (human, financial, & material).

Attributes relating to the management of a business unit, albeit in a public, private, or non-profit organization, constitute a third domain identified in this study.

Table 73 provides a list of these attributes.

Table 73
Business Management Attributes.

	Attribute	Description
BM01	Administration	Activities related to running an organization.
BM02	Benefits & finance	The development & administration of financial tools & nonmonetary compensation.
BM03	Personnel management	Activities related to staff.

Table 74
Personal Characteristics Attributes.

	Attribute	Description
PC01	Career focused	The intentional investment in or progressive achievement of career aspirations through personal reflection, professional contributions, & continual improvement.
PC02	People related	A disposition centered on interpersonal relationships.
PC03	Soft skills	A collection of beliefs and behaviors that lead to a compassionate willingness to reduce the suffering before, during, & after a disaster by demonstrating a genuine appreciation of the manner in which interactions occur & decisions are made in order to instill trust in constituents.
PC04	Stress tested	The ability to perform under diverse work conditions for extended periods of time while recognizing, monitoring, & using healthy strategies to manage the chemical, emotional, or physical elements that cause physical or mental tension.
PC05	Work ethic	An expressed system of values in which the importance of purposeful activity holds central importance & associated qualities are revered.

There is more to success than knowledge and skills. Researchers Anderson and Ferrell (2010) and Knight and York (2002) identify that a student's success is impacted by personal characteristics. Reich (1991) finds that employers value, what he calls, soft skills. Attributes identified in this study and listed in Table 74 reflect

personal characteristics consistent with those found by Anderson and Ferrell, Knight and Young, and Reich.

An additional set of attributes relate to **PC-personal characteristics**, but deal more with an individual’s underlying approach to thinking and operating. Listed in this study as **PD-philosophical dimensions**, these attributes are not solely about knowledge or skills. There is information that may be acquired about these attributes and one can be skillful at performing them, but these attributes are more than the sum of their parts. They are about beliefs and the way in which individuals express those beliefs through actions. As such, attributes in **PD-philosophical dimensions** are less likely to be found in an assessment task (AT) and more likely to be discovered or revealed as part of a reflective activity. Table 75 provides a list of attributes in this domain.

Table 75
Philosophical Dimensions Attributes.

	Attribute	Description
PD01	Collaboration	The act of working together, in a willing manner, towards shared goals & activities.
PD02	Coordination & cooperation	The harmonious interaction of individuals & organizations for mutually beneficial goals.
PD03	Delegation	The demonstrated philosophy of shared responsibility & power expressed through the promotion & utilization of decentralized structures.
PD04	Flexibility	A willingness to change, adapt, adjust, cope, change, or compromise in evolving situations & times.

The idea of attributes in Emergency Management education is not new. Hundreds of degrees exist in virtually every corner of the world. There are even a handful of publications that address practices, challenges, and content. Notably, The Emergency Planning Society in the UK has developed the Core Competency Framework (2011), the New Zealand Ministry of Civil Defence and Emergency Management has developed the Civil Defence Emergency Management Competency

Framework (2009), and the Federal Emergency Management Agency has published Graduate Outcomes (2011). The reader of each is provided with little insight into matters of curriculum, in favor of sometimes-lengthy descriptions of knowledge areas. An analysis of the knowledge areas from each of these documents reveals inconsistencies and gaps when compared to findings in this research.

Table 76 highlights that in the **SKA-specific knowledge area** domain where many of the Emergency Management technical knowledge and skills are concentrated, there is the greatest inclusion of the attributes presented here with the comparative documents. It is equally clear that the domains of **PC-personal characteristics** and **PD-philosophical dimensions** are not adequately represented. An Emergency Management curriculum requires more than just technical knowledge, much of which is available through professional development trainings. A curriculum must address general knowledge areas and transferrable skills not only to meet the expectations of employers, but to prepare students for an informed and engaged life.

Table 76
Representation of Emergency Management Attributes in Comparative Documents

	BM			GKA							PC				PD				SKA									
	Administration	Benefits & Finance	Personnel Management	Communications	Facilitation	Governance	Cognition	Leadership	Management Skills	Stress Tested	People Related	Soft Skills	Professional Focus	Work Ethic	Collaboration	Cooperation	Delegation	Flexibility	Academic Skills	Assessment	Community Oriented Ethos	Emergency Management Area	Risk Management	Phases	Planning	Regulatory Environment	Roles	Technology
NZ	2	1	2	2	2	1	2	3	2	1	2	1	1	1	2	1	2	1	1	2	1	1	2	2	3	1	2	3
US	3	3	2	2	2	3	3	3	3	1	2	1	2	1	1	2	1	2	3	3	3	1	2	3	3	3	3	3
UK	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	2	1	1	3	2	2	1	2	3	3	3	3	3

Note: Representation levels indicated in green (3) denotes high level of commonality, yellow (2) denotes moderate level of commonality, and red (1) denotes low level of commonality.

Biggs and Tang (2011) espouse the importance of defining outcomes as a starting point for developing curriculum. The 29 attributes presented here are offered as that starting point. They serve as components to an Emergency Management higher education curriculum. As discussed previously, curriculum, its development, execution, and evaluation, is complex and involves not only content, but also process.

7.2. Process

As students demand more from their education (Biggs & Tang, 2007), teachers, administrators, and curriculum designers are being held accountable for what and how they perform. Somewhat ironically, the highest level of teaching is not concerned with knowledge transmission or even the skillful use of diverse classroom techniques. The highest level of teaching involves identifying the end goal, determining the intended level of student understanding, and the selection of appropriate techniques (Biggs & Tang, 2011).

A curriculum that directly relates its components towards an end goal includes three key steps; identification of intended learning outcomes (ILOs), creating teaching/learning activities (TLAs), and implementing assessment tasks (ATs) that measure attainment of the outcomes (Biggs & Tang 2011). The previous section addresses the ILOs in identifying attributes that serve as the foundation of curriculum. Such a view of curriculum is more than just at the course level. It begins with the graduate profile and increases in specificity through the programmatic level, down to the course level. Keeping this in mind, TLAs and ATs, discussed in previous chapters, are summarized below.

Dewey (1938) discusses the process of learning in his theory of inquiry, which integrates experiments, movement, and aesthetic, interpersonal, and public context. Such inquiry based learning requires the intentional selection of techniques (Johnston, 2009) of which, problem solving, questioning, and classroom discussions are found to be effective methods in teaching and developing critical skills in students (Kiltz, 2009). TLAs across the program and curriculum are likely variant at progressive stages. A knowledge dimension (Bloom, 1956) at one stage may not be appropriate at another. Likewise, using a cellular method of integrating curriculum does not have the same effect as an immersed or networked curriculum strategy. The careful selection of techniques, the skillful facilitation of their implementation, and the follow-through are important components to consider. Allowing time for reflection (Dewey, 1938) or even a structured reflective process (Ash & Clayton, 2004) can enhance the effectiveness of any activity.

Academic assessment is the third piece of an aligned curriculum presented here. Students in this study did not prefer essay and exam assessments. They appreciate assessments that are practical and have clear linkages to their expected career aspirations. They enjoy expressing themselves creatively and working collaboratively with students with diverse perspectives. Students show a preference for instructor involvement during group assignments, although it is suspected that the level of involvement will lessen over time with structured instruction on group dynamics and facilitated experience. Grading group work invokes its own set of challenges.

Students do not fully support the practice of group grading where all participants in the group receive the same grade. They do support including peer assessments as a percentage of the grade of group assignments. The power dynamic

of grading, like with several issues touched on in this study, opens doors for further investigation.

7.3. Further Research

When considering topics as complex as curriculum development and Emergency Management, the possibilities for ongoing research seems limitless. Looking solely at the issue of attributes, questions of fit and delivery can be identified. Fit refers to the appropriateness of the attributes while delivery deals with instruction.

This study identifies 29 attributes for Emergency Management, consistent with previous publications. It does not however, address two important questions. The first, how do the attributes identified for Emergency Managers compare with other fields? This question includes comparisons between Emergency Management and fields such as homeland security, public health, public administration, or any other discipline. Secondly, what weighting should be afforded to each attribute?

Weighting within the field of Emergency Management may differ between individuals primarily responsible for planning, mitigation, public information, and other areas. It also includes position levels, such as technical staff, supervisors, managers, and executives. Departments of one or less full-time staff members should also be considered. Outside the field of Emergency Management, weighting takes on many of the same questions as to role delineation and position level.

Questions about the delivery of attributes in the curriculum also persist. Are current Emergency Management degree programs using the attributes identified in this study or other publications and to what extent are they being used? Finally, in discussing attributes, this study has highlighted the commonality between three comparative publications. Many gaps exist with regard to theory, approach, and

content between the comparative publications and the attributes as described here. A content analysis and philosophical comparison is warranted.

7.4. Implications

In the Emergency Management literature this study is unique in that it uses qualitative observations to identify attributes, validating, in many instances what is currently available on the subject. With these attributes, this study applies a process of curriculum design that is absent in the Emergency Management literature. Combined, the attributes and the process, provide for a structure to design new student-centered degree programs. Similarly, they provide for the framework to redesign programs currently on offer.

As they are described, the attributes in this study comprise more than key words in a university catalog. They are areas of knowledge, skills, and characteristics of successful practitioners. Recognizing that not all working in the field may possess each attribute at the same level, this information can be instrumental in developing and delivering staff development programs. Likewise, recognizing that not all positions may require the same level of understanding and proficiency, attributes may help in defining position descriptions and hiring priorities.

Overall, this study supports previous efforts and provides new insights into the content and development of higher education curriculum. It provides discussions of curriculum design that are widely applicable. It examines curriculum at the institutional and program level, going beyond mere course titles, which provide little insight into the outcomes, content, and process of instruction. This study has clear implications for curriculum design and redesign in higher education while also providing resources for employee hiring and professional development.

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Appendix A

Attributes Identified in Comparative Documents

This study relies heavily on three sets of published attributes. The term attribute is used here to represent diverse language used by each publisher. The publications used are listed in Table A1 along with their corresponding sponsor and geographic location.

Table A1
Attribute Publications.

Title	Sponsor	Location
CDEM Competency Framework	MCDEM	New Zealand
The EPS Core Competency Framework	EPS	UK
Graduate Outcomes	FEMA	US

For ease of discussion in Chapter 4 this appendix identifies each of the attributes of the three publishers along with a reference number in Table A2, Table A3, and Table A4 along with the publisher's provided definition of each.

Table A2
Attribute Referencing for CDEM Competency Framework.

Key Area	Attribute
RM- relationship management:	Relationships with partners and communities are managed to achieve mutual understanding and effective action.
	RM01- Relationships with key individuals, partner organizations and communities are established
	RM02- Established relationships are actively managed and sustained
IM- Information management:	Information is collected, analysed, and managed using appropriately structured systems and processes at all levels and across all functions of CDEM.
	IM01-Information needs are identified and understood
	IM02-Information systems and processes are developed
	IM03-Systems and processes are applied to collect and maintain information
RS-Risk management:	Risk management is applied at all levels and across all functions of CDEM.
	RS01-Hazards and risks are recognized, understood, and communicated
	RS02-Risk management is understood and applied
	RS03-Risk management processes and outcomes are monitored, evaluated, and reviewed
PL-Planning:	The process of comprehensive and integrated planning –

development, maintenance, evaluation and review.

PL01-Purposes and objectives of plans are agreed and understood

PL02-Plans are developed, written and maintained in accordance with the agreed purpose and objectives

PL03-Plans are coordinated and integrated across all levels and partners

PL04-Plans are evaluated and updated

IP-Implementation: Implementation of operational plans (including response and recovery plans), and management of physical, human and financial resources.

IP01-Assigned EOC roles are performed in accordance with existing plans and standard operating procedures

IP02-Emergencies are managed in accordance with the scale of activity, existing plans, and standard operating procedures

IP03-Human resources are managed in order to achieve maximum effectiveness

IP04-Physical resources (facilities, vehicles, equipment, etc.) are sourced, operated, and maintained in order to achieve maximum effectiveness

IP05-Financial management processes are implemented and funds allocated

CM-Communication: Collaborative and coordinated development, prioritisation and transfer of information and key messages between partners and communities.

CM01-Effective communication with partners and communities is achieved at all levels and across all functions

CM02-Public education/risk communication programs are developed to support community readiness and risk reduction

CM03-Public information messages are developed and disseminated during response and recovery

CM04-Media are engaged in public information management and public education

CD-Capability development: Development of individual and organisational capability at all levels and across all functions of CDEM.

CD01-Capability development opportunities are actively sought and undertaken

CD02-Training and education programs are developed and delivered

CD03-Exercises are developed and carried out

CD04-Capability development opportunities are provided to build a workforce of competent personnel

CD05-Organizational capability is monitored and evaluated

LD-Leadership: The ability to empower and influence others and drive change at all levels and across all functions of CDEM.

LD01-A vision is developed and articulated

LD02-An environment is created that empowers others to act and succeed

LD03-Leadership is demonstrated through strategic decision making that influences others and drives change

LD04-Leadership is demonstrated through professional conduct and effective self management

Note. Adapted from *Civil Defence Emergency Management Competency Framework* (TS 02/09) by New Zealand Ministry of Civil Defence and Emergency Management, 2011. Retrieved from [http://www.civildefence.govt.nz/memwebsite.nsf/Files/Professional_Development_files/\\$file/CDEM-comp-framework-web11.pdf](http://www.civildefence.govt.nz/memwebsite.nsf/Files/Professional_Development_files/$file/CDEM-comp-framework-web11.pdf)

Table A3
Attribute Referencing for The Emergency Planning Society Core Competency Framework.

Attribute
EPS01-Theories and concepts in emergency management: This competence provides a basic understanding of the concepts, theories and terminology that are used in Emergency Management. The aim is to equip the aspiring practitioner with the fundamental knowledge and understanding to be able to effectively participate in Emergency Management activities.
EPS02-Anticipate and assess the risk of emergencies: This competence is about organising the assessment of risk in relation to the development of Emergency Management strategies.
EPS03-Plan for emergencies: This competence is about the development of emergency plans, procedures, training and education programmes. The documents being developed are in line with Risk Assessments, relevant legislation for your area of employment and corporate governance policies.
EPS04-Plan for business continuity: This competence covers the development of Business Continuity Plans and their subsequent integration into an organisation.
EPS05-Validate emergency or business continuity plans: This competence covers the validation of Emergency Response or Business Continuity Plans using live, simulated, table top or other methods of exercising.
EPS06-Communicate with the community to enhance resilience: This competence is about communicating Emergency Management issues to communities to ensure they fully understand self help, their role during an emergency and the role of key responders during an emergency.
EPS07-Manage response to emergencies: The competence is about managing the response to an emergency at all levels of coordination.
EPS08-Manage the recovery from emergencies: This competence is about managing and helping communities and individuals to recover from the effects of an emergency.
EPS09-Act effectively across your organization: This competence is about ensuring your organisation recognises its responsibilities and is ready to deliver its functions in response to emergencies.
EPS10-Cooperate with other organization: This competence is about working in partnership with internal and external stakeholders to deliver Emergency Management functions.
EPS11-Debrief after an emergency, exercise or other activity: This competence is about organising and conducting debriefs following an emergency, exercise or other activity to enable organisations both individually and as multi agency groups to identify lessons to be learned from such events.
EPS12-Manage computer generated data to support decision making: This competence is about the management of information and knowledge generated by computer based information systems such as Geographical Information Systems (GIS) and Management Information Systems (MIS) and its effective use to support decision making in Emergency Management both in day to day activities and during emergencies.

Note. Adapted from *The Emergency Planning Society Core Competences Framework* by Emergency Planning Society, 2011. Retrieved from <https://www.the-eps.org>

Table A4
Attribute Referencing for the Federal Emergency Management Agency Graduate Outcomes.

Attributes
<p>Foundational Tenants</p> <p>FHA-Historical Awareness: Graduates should possess sufficient knowledge of the history of disasters and emergency management (modern origin and evolution since the beginning of the 20th Century) to understand what implications the patterns and trends have on policy.</p> <ul style="list-style-type: none"> History of disasters History of emergency management Implication that patterns and trends have on policy <p>FEC-Effective Communications: Graduates should exhibit proficiency in scientific research methodology and be able to produce multiple forms of written professional documentation. Graduates should be able to demonstrate a high level of verbal and written communication, including strong interpersonal communication and group speaking skills, and effective use of current presentation tools and techniques (including effective training, an example of which is the creation and delivery of training at multiple levels).</p> <ul style="list-style-type: none"> Scientific research methodology Research, journal, and technical writing Verbal communication: interpersonal and group Presentation skills: utilizing tools and techniques <p>FLM-Leadership, Management, and Decision Making: Graduates should appreciate the value of leadership and management skills, as well as, when and how they should be applied; be able to recognize and apply the appropriate decision making models; be able to isolate and apply strategic planning; and, demonstrate recognition of the ethical considerations unique to the practice of emergency management.</p> <ul style="list-style-type: none"> Leadership skills Management skills Decision making models Strategic planning Ethical considerations <p>FPD-Personal, Organizational, and Professional Development: Graduates should demonstrate a clear understanding of, and a commitment to, the promotion of personal, organizational and professional development by identifying and pursuing continuous on-going training and education.</p> <ul style="list-style-type: none"> Personal development Organizational development Professional development <p>Core Areas</p> <p>CPE-Principles of Emergency Management: Graduates should be well-versed in the definition, mission, concepts and terminology used and applied in emergency management.</p> <ul style="list-style-type: none"> Definitions, mission, concepts, and terminology <p>CHM- Human Dimensions: Graduates should have a solid grounding in social, political, economic, cultural and ecological issues; interpersonal and inter-organizational behavior; disaster myths; and, the concepts of vulnerability and</p>

the social construction of disaster.

- Sociological issues
- Political issues
- Economic issues
- Cultural issues
- Ecological issues
- Interpersonal behavior
- Inter-organizational behavior
- Disaster myths
- Vulnerability
- Social constructs of disaster human behavior

CPL-Policy and Legal Dimensions: Graduates should also possess a firm grasp of the statutory basis of emergency management in the public sector; and, a basic familiarity with, and ability to, address federal, state, tribal and local policies, legislation, directives, and regulations.

- Leadership skills
- Management skills
- Decision making models
- Strategic planning
- Ethical considerations

CAE-Areas of Emergency Management Responsibility: Graduates should be able to identify and define areas of emergency management responsibility including mitigation opportunities, planning, training, exercises, warning, evacuation, sheltering, damage assessment, debris removal, donation management, volunteer management, public information, federal assistance programs, and recovery programs. Graduates should understand the need to integrate the essential stakeholders within their community (e.g., law enforcement, emergency medical services, public health, fire, VOAD, public works, critical infrastructure partners, and businesses) in order to create a community framework that reduces vulnerability to hazards and enhances the ability to cope with disasters.

- Mitigation opportunities
- Planning
- Training and exercise
- Warning, evacuation, and sheltering
- Damage assessment
- Debris removal
- Donations management
- Volunteer management
- Public information
- Federal assistance programs
- Recovery programs
- Creation of a community framework for vulnerability reduction and resilience

CRA-Risk Assessment Process and Methodology: Graduates should possess the ability to apply processes and methodologies including hazard identification, threat analysis and vulnerability assessment within the overlapping contexts of the social, built, and physical environments.

- Hazard identification

Threat analysis

Vulnerability assessment

CFD-Fiscal Dimensions of Emergency Management: Graduates should be able to navigate the policies and procedures that drive the budgetary process. This should include an understanding of the fiscal responsibilities of the private, non-governmental organization (NGO) and public sectors at the federal, state, tribal and local levels. Graduates should also possess a basic understanding of internal and external sources, revenue, budgets and expenditures, accountability, reimbursements, grant management, resource lists, cost-benefit analysis, mutual aid, procurement, and disaster assistance funding.

Fiscal responsibilities of all sectors at all government levels

Internal and external sources

Revenue budgets and expenditures

Accountability

Reimbursements

Grant management

Resource lists

Cost-benefit analysis

Mutual aid

Procurement

Disaster assistance funding

CAP-Awareness and Promotion of Emergency Management: Graduates should recognize and promote the awareness and advancement of emergency management through the involvement of political leaders and key decision makers, policy advocacy, stakeholder engagement, partnerships among practitioners and scholars, public education and involvement in professional organizations.

Involving key leaders and policy makers

Policy advocacy

Stakeholder engagement

Partnership between practitioners and scholars

Public education

Professional organizations

CEM-Emergency Management Standards, Best Practices and Comparative Practices: Graduates should be able to select and apply existing standards, best practices and comparative perspectives in their day-to-day operations. Graduates should exhibit an appreciation of the evolutionary nature of emergency management including current, ongoing, and developing societal and technological changes.

Emergency Management Standards

Best practices

Comparative perspectives

Evolutionary nature of Emergency Management

Societal and technological changes that affect practice

Supporting Areas

SPA-Public Administration and Community Planning and Development: Graduates should possess a firm grasp of the political realities involved in working within inter- and intra-governmental systems. They should understand and be able to articulate the importance of public administration

and community planning and development to enhance the success of emergency management.

Working within inter- and intra-governmental systems

Public administration's role in successful Emergency Management

Community planning and development's role in successful Emergency Management

SPP-Public, Private, and Nongovernmental Organizational Networking

Graduates should appreciate the importance of public, private, and nongovernmental organization networking to facilitate collaboration, cooperation, and trust.

Importance of networking between the sectors to facilitate collaboration, cooperation, and trust

SCE-Current and Emerging Technologies: Graduates should be able to select and apply currently available technology and incorporate future technology in the practice of emergency management (e.g.; spatial analysis, interoperable communications, emergency operations center management tools, information analysis).

Current and emerging technologies that aid in the practice of Emergency Management

Note. Adapted from Framing the future: What should emergency management graduates know? By C. Cwiak, 2011. *Journal of Homeland Security and Emergency Management*, 8(2). doi: 10.2202/1547-7355.1910

Appendix B

Emergency Management Participants

Zoe Byrne, Manager Business Continuity Management & Resilience at international financial institution (see Footnote 14) in New Zealand. Represents international business. Interviewed November 2013.

Jim Buchanan, Director Emergency Services at Brigham City in the US. Represents local government. Observed for four days and interviewed October 2012.

Perry Cogburn, Director Security & Emergency Management at Virginia Department of Transportation in the US. Represents sub-national government. Observed for four days and interviewed November 2012.

Lamorna Cooper, Emergency Services Officer at Timaru District Council in New Zealand. Represents local government. Observed for five days and interviewed between April and May 2013.

Trevor Cogington, Manager at humanitarian NGO (see Footnote 14) in the US. Represents sub-national nongovernmental organization. Interviewed December 2012.

Neil Cruickshank, Manager, Emergency Management Southland in New Zealand. Represent sub-national government. Observed for two days and interviewed May 2013.

Kevin Doak, Director Loss Prevention at Grand Lands in the US. Represents local business. Interviewed November 2012.

Jose Dominguez, Director of Loss Prevention at Marriott's Grande Vista in the US. Represent local business. Observed one day and interviewed November 2012.

Chandra Fox, Emergency Management Coordinator at Emergency Services

Coordination Agency in the US. Represents sub-national government.

Observed for 1 day and interviewed December 2012.

Wade Gayler, Regional Emergency Services Director at American Red Cross in

the US. Represents sub-national nongovernmental organization. Observed

for five days and interviewed December 2012.

Barb Graff, Director at City of Seattle Office of Emergency Management in the US.

Represents local government. Interviewed December 2012.

Lyn Gross, Director at Emergency Services Coordination Agency in the US.

Represents sub-national government. Observed for three days and

interviewed December 2012.

Paul Harris (see Footnote 13) at an international transportation provider (see

Footnote 14) in New Zealand. Represents international business.

Interviewed November 2013.

Lee Hazelwood, Group Controller at Waikato Region Emergency Management in

New Zealand. Represents sub-national government. Interviewed November

2013.

Robert Howard, Loss Prevention Manager at Marriott's Harbor Lake in the US.

Represents local business. Observed for two days and interviewed

November 2012.

Harper Huntley (see Footnote 13), Emergency Manger at Fortune 100

international manufacturer (see Footnote 14) in the US. Represents

international business. Interviewed December 2012.

Drew Leemon, Director Risk Management at National Outdoor Leadership School

in the US. Represents international business. Interviewed June 2013.

Kin Lock (see Footnote 13) at an international business continuity management consultancy in New Zealand. Interviewed November 2013.

Sandra Minser (see Footnote 13) at Emergency Management Southland in New Zealand. Represents sub-national government. Interviewed May 2013.

Jonathan Mills, Director of Loss Prevention at Marriott's Cypress Harbor in the US. Represents local business. Observed one day and interviewed November 2012.

Mark Mall (see Footnote 13), Director of Emergency Management at a university (see Footnote 14) in the US. Represents local government. Observed three days and interviewed June 2013.

Dan Neely, Manager at Wellington Regional Emergency Management Office in New Zealand. Represent sub-national government. Observed three days and interviewed April 2013.

Alain Normand, Manager at City of Brampton Emergency Measures Office in Canada. Represents local government. Observed three days and interviewed November 2012.

Bruce Pepperell, Regional Manager at Wellington Regional Emergency Management Office. Represents sub-national government. Observed one day and interviewed April 2013.

Chris Raine, Manager Emergency Services at Waitaki District Council in New Zealand. Represents local government. Observed three days and interviewed May 2013.

Alma Reed (see Footnote 13) at a sub-national government emergency management office (see Footnote 14) in New Zealand. Interviewed April 2013.

Jason Shoe (see Footnote 13) at a state department of transportation (see Footnote 14) in the US. Represents sub-national government. Interviewed November 2012.

Craig Sinclair at Emergency Management Southland in New Zealand. Represents sub-national government. Interviewed May 2013.

Kathy Sutton (see Footnote 13) at an international aerospace company (see Footnote 14) in the US. Interviewed June 2013.

Michael Stever, Emergency Manager at Utah Department of Health in the US. Represents sub-national government. Observed for five days and interviewed October 2012.

Rian van Schalkwyk, Manager at Wellington Regional Emergency Management Office in New Zealand. Represents sub-national government. Observed for one day and interviewed April 2013.

Peter Walker at Wellington Regional Emergency Management office in New Zealand. Represents sub-national government. Interviewed April 2013.

Steven Weber, Security and Emergency Management at Virginia Department of Transportation in the US. Represents sub-national government. Interviewed November 2012.

Ray Wood, Senior Director of Global Safety and Security at an international hospitality company (see Footnote 14) in the US. Represents international business. Observed for one day and interviewed November 2012.

Appendix C

Human Ethics Approval



HUMAN ETHICS COMMITTEE

Secretary, Lynda Griffioen
Email: human-ethics@canterbury.ac.nz

Ref: 2012/41/ERHEC

28 September 2012

William Hurtes
School of Educational Studies & Human Development
UNIVERSITY OF CANTERBURY

Dear William

Thank you for providing the revised documents in support of your application to the Educational Research Human Ethics Committee. I am very pleased to inform you that your research proposal "Tertiary preparation of the next generation emergency manager" has been granted ethical approval.

Please note that should circumstances relevant to this current application change you are required to reapply for ethical approval.

If you have any questions regarding this approval, please let me know.

We wish you well for your research.

Yours sincerely

A handwritten signature in black ink, appearing to read 'N Surtees'.

Nicola Surtees
Chair
Educational Research Human Ethics Committee

"Please note that Ethical Approval and/or Clearance relates only to the ethical elements of the relationship between the researcher, research participants and other stakeholders. The granting of approval or clearance by the Ethical Clearance Committee should not be interpreted as comment on the methodology, legality, value or any other matters relating to this research."

Telephone: +64 027 344 4068
Email: William.Hurtes@pg.canterbury.ac.nz

July 15, 2012



**Tertiary Preparation of the Next Generation
Emergency Management Officials
Emergency Manager Information Sheet**

As part of a doctoral degree in the College of Education at the University of Canterbury, I am conducting a research study focused on mapping the components of an emergency management undergraduate degree. You have been identified by your peers as an exemplarily representative in the field. I am asking for your participation in this study to help identify professional competencies.

Your participation in this study is voluntary and if you do agree to participate you have the right to withdraw at any time without penalty. If you withdraw, I will do my best to remove any information relating to you, provided this is practically achievable.

Your voluntary participation will involve:

- Observations of you by the researcher for a period of approximately five working days at an agreed upon time. These observations will be conducted during working hours at your work site(s) and may include internal and external meetings, briefings, site visits, or other work tasks. Field notes will be collected on the mannerisms in which work is conducted and the skills utilized. Threats, hazards, industry or trade secrets, vulnerabilities, specific planning or counterterrorism initiatives, or other sensitive information will not be collected, possessed by the researcher, repeated, or reflected in any part of the research study.
- You will be asked to provide the name and contact information of a partner agency representative that you work closely with. This individual will be contacted and asked to comment on their experiences with you as an emergency manager.

The information you provide will be confidential in that it will only be viewed and analysed by me. You will have the option of participating in either an anonymous or identified manner.

- Anonymous participation will ensure your name, title, and agency name are not identified. You will be referred to by a pseudonym, given a general title (i.e. senior manager, manager), and your agency will be identified only by industry type (i.e. retail, bank, municipal, transportation). If you choose to participate as an anonymous participant, the partner agency representative you identify will also be considered anonymous.
- You have the option of participating as identified. In this way you choose to have your name, position title, and agency identified.

Your participation is important to this research and you should feel comfortable that the information you provide will be maintained in a secure way. All the electronic data will be securely stored with passwords and maintained in a locking office for a period of no less than ten years.

The results of this research will be used in a doctoral thesis to inform undergraduate curriculum components. Extrapolations of the data or its entirety may be used for curriculum development, journal articles, presentations, workshops trainings, books or book chapters. You will be provided with a summary of how the research has been used if you request it.

If you have any questions about the study, please contact me at the information provided at the top of this notice. . Complaints may be addressed to The Chair, Educational Research Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch, Email: human-ethics@canterbury.ac.nz.

If you agree to participate in this study, please complete the attached Emergency Manager Consent Form and return it to me in the envelope provided or in person. I look forward to working with you and thank you in advance for your contributions.

William Hurtes

University of Canterbury Private Bag 4800, Christchurch 8140, New Zealand. www.canterbury.ac.nz

Telephone: +64 027 344 4068
Email: William.Hurtes@pg.canterbury.ac.nz

**Tertiary Preparation of the Next Generation
Emergency Management Officials
Emergency Manager Consent Form**



I have been given an Emergency Manager Information Sheet that provides a full explanation of this project and have been given an opportunity to ask questions.

I understand what will be required of me if I agree to take part in this project.

I understand that my participation is voluntary and that I may withdraw at any stage without penalty.

I understand that any information or opinions I provide will be either anonymous or identified based on my selection below.

I understand that all data collected for this study will be kept in a password protected format in a locked office for a period of no less than ten years until destroyed.

I understand that I may request a report of the findings of this study by indicating below and providing an email address.

I understand that if I require further information I can contact the researcher, William Hurtes. Complaints may be addressed to The Chair, Educational Research Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch, Email: human-ethics@canterbury.ac.nz.

I wish my participation to be (select one):

☐ Anonymous – Your name, title, and agency name are not identified. You will be referred to by a pseudonym, given a general title (i.e. senior manager, manager), and your agency will be identified only by industry type (i.e. retail, bank, municipal, transportation). If you choose to participate as an anonymous participant, the partner agency representative you identify will also be considered anonymous.

☐ Identified – Your name, position title, and agency name may be identified.

☐ Other – Some information may be provided as confidential. Select the items below that you wish to remain confidential:

☐ Name

☐ Position Title

☐ Agency Name

By signing below, I agree to participate in this research project.

Name: _____

Signature: _____ Date: _____

I wish to receive a report of the findings of this study.

Email Address: _____

Please return this signed form before 30 September 2011 in the envelope provided or at William.Hurtes@pg.canterbury.ac.nz.

University of Canterbury Private Bag 4800, Christchurch 8140, New Zealand. www.canterbury.ac.nz

Telephone: +64 027 344 4068
Email: William.Hurtes@pg.canterbury.ac.nz

July 15, 2012



**Tertiary Preparation of the Next Generation
Emergency Management Officials
Partner Agency Representative Information Sheet**

As part of a doctoral degree in the College of Education at the University of Canterbury, I am conducting a research study focused on mapping the components of an emergency management undergraduate degree. A participating emergency manager has indicated that you work closely with them. I am asking for your participation in this study to help identify professional competencies.

Your participation in this study is voluntary and if you do agree to participate you have the right to withdraw at any time without penalty. If you withdraw, I will do my best to remove any information relating to you, provided this is practically achievable.

Your voluntary participation will involve:

- Participation in an audio-taped interview with the researcher to discuss the management qualities and skills of the referring emergency manager. This will take approximately 30 minutes.

The information you provide will be confidential in that it will only be viewed and analysed by me. You will have the option of participating in either an anonymous or identified manner.

- Anonymous participation will ensure your name, title, and agency name are not identified. You will be referred to by a pseudonym, given a general title (i.e. senior manager, manager), and your agency will be identified only by industry type (i.e. retail, bank, municipal, transportation). If the referring emergency manager has chosen to participate with anonymity, your participation will automatically be registered as anonymous.
- You have the option of participating as identified. In this way you choose to have your name, position title, and agency identified.

The participation of the wider emergency management community is important to this research and you should feel comfortable that the information provided will be maintained in a secure way. All the electronic data will be securely stored with passwords and maintained in a locking office for a period of no less than ten years.

The results of this research will be used in a doctoral thesis to inform undergraduate curriculum components. Extrapolations of the data or its entirety may be used for curriculum development, journal articles, presentations, workshops trainings, books or book chapters. You will be provided with a summary of how the research has been used if you request it.

If you have any questions about the study, please contact me at the information provided at the top of this notice. Complaints may be addressed to The Chair, Educational Research Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch, Email: human-ethics@canterbury.ac.nz.

If you agree to participate in this study, please complete the attached Emergency Manager Consent Form and return it to me in the envelope provided or in person. I look forward to working with you and thank you in advance for your contributions.

William Hurtes

University of Canterbury Private Bag 4800, Christchurch 8140, New Zealand. www.canterbury.ac.nz

Telephone: +64 027 344 4068
Email: William.Hurtes@pg.canterbury.ac.nz

**Tertiary Preparation of the Next Generation
Emergency Management Officials
Partner Agency Representative Consent Form**



I have been given a Partner Agency Representative Information Sheet that provides a full explanation of this project and have been given an opportunity to ask questions.

I understand what will be required of me if I agree to take part in this project.

I understand that my participation is voluntary and that I may withdraw at any stage without penalty.

I understand that any information or opinions I provide will be either anonymous or identified based on my selection below.

I understand that an audio-recording may be made of my interview.

I understand that all data collected for this study will be kept in a password protected format in a locked office for a period of no less than ten years until destroyed.

I understand that I may request a report of the findings of this study by indicating below and providing an email address.

I understand that if I require further information I can contact the researcher, William Hurtes. Complaints may be addressed to The Chair, Educational Research Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch, Email: human-ethics@canterbury.ac.nz.

I wish my participation to be (select one):

☐ Anonymous - Your name, title, and agency name are not identified. You will be referred to by a pseudonym, given a general title (i.e. senior manager, manager), and your agency will be identified only by industry type (i.e. retail, bank, municipal, transportation). If the referring emergency manager has chosen to participate confidentially, your participation will automatically be registered as confidential.

☐ Identified - Your name, position title, and agency may be identified.

☐ Other – Some information may be provided as confidential. Select the items below that you wish to remain confidential:

☐ Name

☐ Position Title

☐ Agency Name

By signing below, I agree to participate in this research project.

Name: _____

Signature: _____ Date: _____

I wish to receive a report of the findings of this study.

Email Address: _____

Please return this signed form before 30 September 2011 in the envelope provided or at William.Hurtes@pg.canterbury.ac.nz.

University of Canterbury Private Bag 4800, Christchurch 8140, New Zealand. www.canterbury.ac.nz

Telephone: +64 027 344 4068
Email: William.Hurtes@pg.canterbury.ac.nz

July 16, 2012



**Tertiary Preparation of the Next Generation
Emergency Management Officials
Public Information Sheet**

As part of a doctoral degree in the College of Education at the University of Canterbury, I am conducting a research study on degree requirements for disaster workers. I am asking for public perceptions of the roles of disaster workers and expectations of the job.

Your participation in this study is voluntary and if you do agree to participate you have the right to withdraw at any time without penalty. If you withdraw, I will do my best to remove any information relating to you, provided this is practically achievable.

Your voluntary participation will involve:

- Participation in a n audio-taped interview with the researcher to discuss what you believe the roles of disaster workers are and what you expect of them. This will take approximately 15 minutes.

The information you provided will be confidential in that it will only be viewed and analysed by me. You will have the option of participating in an anonymous or identified manner.

- Anonymous participation will ensure your name is not identified. You will be referred to by a pseudonym and a general location of where the interview was conducted will be provided.
- You have the option of participating as identified. In this way you choose to have your name identified.

The participation of the public is important to this research and you should feel comfortable that the information provided will be maintained in a secure way. All the electronic data will be securely stored with passwords and maintained in a locking office for a period of no less than ten years.

In addition to collecting information from you for my doctoral study, it is possible that this information will be deposited, with our consent, into QuakeStudies, a research repository about the Canterbury earthquakes. I have provided a separate QuakeStudies Information Sheet an Consent Form. Please note that you can choose to provide information for my study but not have that deposited in QuakeStudies.

The results of this research will be used in a doctoral thesis to inform undergraduate curriculum components. Extrapolations of the data or its entirety may be used for curriculum development, journal articles, presentations, workshops trainings, books or book chapters. You will be provided with a summary of how the research has been used if you request it.

If you have any questions about the study, please contact me at the information provided at the top of this notice. Complaints may be addressed to The Chair, Educational Research Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch, Email: human-ethics@canterbury.ac.nz.

If you agree to participate in this study, please complete the attached Public Consent Form and return it to me. I look forward to working with you and thank you in advance for your contributions.

William Hurtes

University of Canterbury Private Bag 4800, Christchurch 8140, New Zealand. www.canterbury.ac.nz

Telephone: +64 027 344 4068
Email: William.Hurtes@pg.canterbury.ac.nz

**Tertiary Preparation of the Next Generation
Emergency Management Officials
Public Consent Form**



I have been given a Public Information Sheet that provides a full explanation of this project and have been given an opportunity to ask questions.

I understand what will be required of me if I agree to take part in this project.

I understand that my participation is voluntary and that I may withdraw at any stage without penalty.

I understand that any information or opinions I provide will be either anonymous or identified based on my selection below.

I understand that an audio-recording may be made of my interview.

I understand that all data collected for this study will be kept in a password protected format in a locked office for a period of no less than ten years until destroyed.

I understand that I may request a report of the findings of this study by indicating below and providing an email address.

I understand that if I require further information I can contact the researcher, William Hurtes. Complaints may be addressed to The Chair, Educational Research Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch, Email: human-ethics@canterbury.ac.nz.

I wish my participation to be (select one):

- ☐ Anonymous – Your name is not identified. You will be referred to by a pseudonym and a general location of where the interview was conducted will be provided.
- ☐ Identified – Your name will be identified with your content.

By signing below, I agree to participate in this research project.

Name: _____

Signature: _____ Date: _____

I wish to receive a report of the findings of this study.

Email Address: _____

Please return this signed form before the interview to me personally.

Country	Zip Code	Phase	Initiative	Track	Document	Class	Start Date	Participant

University of Canterbury Private Bag 4800, Christchurch 8140, New Zealand. www.canterbury.ac.nz

Telephone: +64 027 344 4068
Email: William.Hurtes@pg.canterbury.ac.nz

July 15, 2012



**Tertiary Preparation of the Next Generation
Emergency Management Officials
Student Information Sheet**

As part of a doctoral degree in the College of Education at the University of Canterbury, I am conducting a research study focused on mapping the components of an emergency management undergraduate degree. I am asking for your cooperation and participation in this study to help test student assessment methods.

Participation is voluntary and withdrawal at any time is permitted without penalty. If you withdraw, I will do my best to remove any information relating to you, provided this is practically achievable.

Voluntary participation will involve:

- Participate in a focus group with other students about the assessment in your class(es) at the conclusion of the course(s). This will take approximately 30 minutes.

The information you provide will be confidential in that it will only be viewed and analysed by me. You will have the option of participating in a confidential or non-confidential manner.

- Anonymous participation will ensure that your name is not identified. You will be referred to by a pseudonym.
- You have the option of participating as identified. In this way your name may be used.

The participation of the emergency management community is important to this research and everyone should feel comfortable that the information provided will be maintained in a secure way. All the electronic data will be securely stored with passwords and maintained in a locking office for a period of no less than ten years before destruction.

The results of this research will be used in a doctoral thesis to inform undergraduate curriculum components. Extrapolations of the data or its entirety may be used for curriculum development, journal articles, presentations, workshops trainings, books or book chapters. You will be provided with a summary of how the research has been used if you request it.

If you have any questions about the study, please contact me at the information provided at the top of this notice. Complaints may be addressed to The Chair, Educational Research Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch, Email: human-ethics@canterbury.ac.nz.

If you agree to participate in this study, please complete the attached Student Consent Form and return it to me in the envelope provided or at William.Hurtes@pg.canterbury.ac.nz.

William Hurtes

University of Canterbury Private Bag 4800, Christchurch 8140, New Zealand. www.canterbury.ac.nz

Telephone: +64 027 344 4068
Email: William.Hurtes@pg.canterbury.ac.nz

**Tertiary Preparation of the Next Generation
Emergency Management Officials
Student Consent Form**



I have been given a Student Information Sheet that provides a full explanation of this project and have been given an opportunity to ask questions.

I understand what will be required of me and I agree to take part in this project.

I understand that participation is voluntary and that I may withdraw at any stage without penalty.

I understand that any information or opinions provided will be either anonymous or identified based on my selection below.

I understand that all data collected for this study will be kept in a password protected format in a locked office for a period of no less than ten years until destroyed.

I understand that I may request a report of the findings of this study by indicating below and providing an email address.

I understand that if I require further information I can contact the researcher, William Hurtes. Complaints may be addressed to The Chair, Educational Research Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch, Email: human-ethics@canterbury.ac.nz.

My participation will be (select one):

☐ Anonymous – The student's name will not be identified. You will be referred to by a pseudonym and only the University and department will be identified.

☐ Identified – The student's name, University, class may be identified.

By signing below, I agree to participate in this research project.

Name: _____ Class: _____

Signature: _____ Date: _____

I wish to receive a report of the findings of this study.

Email Address: _____

Please return this signed form before 30 September 2011 in the envelope provided or at William.Hurtes@pg.canterbury.ac.nz.

Country	Zip Code	Phase	Initiative	Track	Document	Class	Start Date	Participant

University of Canterbury Private Bag 4800, Christchurch 8140, New Zealand. www.canterbury.ac.nz

Appendix D

Partner Agency Representatives

Stu Gram (see Footnote 13) at New Zealand Fire Service

Jessica Holliday (see Footnote 13), Chief Executive Officer at a U. S. based local
nongovernmental organization (see Footnote 14)

Cheryl Jamieson, Emergency Management Specialist at Region of Peel, Canada

Devin Kerry (see Footnote 13), a senior manager at New Zealand Fire Service

Michael Nelson, Director Operation Division, Virginia Department of Emergency
Management

John Pennington, Director Emergency Management at Snohomish County,
Washington State

John Pine, Senior Sargent at New Zealand Police

Susan Tarry (see Footnote 13), Senior Manager at a U. S. university

Steve Slater, Manager at a US based international nongovernmental organization
(see Footnote 14)

Robert Wilson, at St. John Ambulance, New Zealand

Appendix E

Public Participants

Julia Acheson, CERT member from Washington State

Kevin Acheson, CERT member from Washington State

Dan Agun, CERT member from Washington State

Reaberta Bauer, CERT member from Utah State

Wendy Loveen Biggs, CERT trainee from Virginia State

Phil Blick, CERT member from Idaho State

Sharon Boulton, RRT member from Canterbury Region

Trey Buck (see Footnote 13), RRT member from Canterbury Region

John F. Clark, CERT member from Washington State

Tom Connelly, RRT member from Canterbury Region

Boyd Card (see Footnote 13), RRT member from Auckland Region

Nathan Dyer, CERT member from Washington State

Jan Egge, CERT member from Idaho State

Jack Easter (see Footnote 13), CERT member from Utah State

Kirk Falconer, RRT member form Canterbury Region

Kerry Field, CERT member from Washington State

Nedda Field, CERT member from Washington State

Nevilla Gard, Welfare volunteer from Canterbury Region

Michelle Goldins, Civil Defence trainee from Wellington Region

Edward Granda, CERT trainee from Utah State

Robert Grinner, CERT member from Washington State

Steven Groseclose, CERT trainee from Virginia State

Dolelle Hawkins, Welfare volunteer from Canterbury Region

William Hawkins, CERT member from Washington State

Bob Haynie, CCC member from Utah State

Wallace Hinter (see Footnote 13), CERT trainee from Florida State

Calvin Hons (see Footnote 13), RRT member from Canterbury Region

Ian Hunter, Welfare volunteer from Canterbury Region

Jason Ion, RRT member from Auckland Region

Tony Jaeger, CERT member from Washington State

Pip Jepson, Welfare volunteer from Canterbury Region

Mark Jordan, Civil Defence trainee from Wellington Region

Faye Keller, CERT member from Idaho State

Robert Kelley, CERT trainee from Virginia State

Daymond Kofford, CERT trainee from Utah State

John Leake, CERT trainee from Virginia State

John Lee, CERT member from Idaho State

Chrisson Maddux, amateur radio trainee from Utah State

Don Miles (see Footnote 13), CERT trainee from Florida State

Jon Mitchell, CCC member from Utah State

Abby Nadew, Civil Defence trainee from Wellington Region

Nick Nedson (see Footnote 13), CERT trainee from Florida State

Katie Nikadow (see Footnote 13), CERT member from Idaho State

Debbie Paiethorpe, CERT trainee from Utah State

Diana Pechoics, preparedness fair attendee from Utah State

Brian Regrut, CERT trainee from Virginia State

Sally Reid, RRT member from Auckland Region

Jess Rend (see Footnote 13), RRT member from Auckland Region

Damian Salas, CERT trainee from Virginia State

Isaac Sales (see Footnote 13), Civil Defence trainee from Wellington Region

Wes Shelton, CERT trainee from Utah State

Jane Smather (see Footnote 13), CERT trainee from Florida State

Roy Smith, CERT member from Washington State

Andrew Sorenson, amateur radio trainee from Utah State

Brad Spender (see Footnote 13), CERT trainee from Florida State

Heather Talbeck (see Footnote 13), CERT trainee from Utah State

Dan Teebooa, RRT member from Auckland Region

Graeme Tilsley, RRT member from Auckland Region

Andrew Todd, RRT member from Canterbury Region

Diana Turner, Welfare volunteer from Canterbury Region

Gloria Vincent, CERT trainee from Utah State

Erin Vast (see Footnote 13), CERT trainee from Virginia State

Matthew Walker (see Footnote 13), RRT member from Auckland Region

Ken Weavers, RRT member from Canterbury Region

Peter Westbrook, RRT member from Auckland Region

Dal Wiscombe, CCC member from Utah State

Ethan Young (see Footnote 13), CERT trainee from Utah State

Appendix F

Attributes

Academic Skills (SKA01): Having a learned understanding based on formal study.

Assessment (SKA02): The process of gathering and analyzing information in order to inform understanding.

Community Oriented Ethos (SKA03): A disposition that recognizes the importance and benefits of a social construct of community where shared values, interest, and affiliations are celebrated and empowered.

Risk Management (SKA04): The use of defined practices, procedures, structures and culture involved in identifying, assessing, analyzing, avoiding, eliminating, controlling, or minimizing negative events.

Emergency Management Areas (SKA05): Knowledge and skills uniquely applied or adapted to the field and practice of Emergency Management.

Phases (SKA06): Distinct areas that provide an overarching framework of Emergency Management activities.

Planning (SKA07): The complex multidimensional process undertaken prior to execution in which what, how, when, and by whom questions are addressed in order to advance towards an agreed upon point.

Regulatory Environment (SKA08): A set of codes, laws, policies, rules, standards or other such instruments and mechanism that influence actions. This may also include a culture of such directory administration.

Roles (SKA09): The involvement and participation of organizations, whether regulated, voluntary, or spontaneous, should be understood and respected as a means to enhance disaster prevention, mitigation, response, and recovery.

Technology (SKA10): The practical use of a machine, method, piece of equipment, or software to accomplish a task.

Communication (GKA01): The active process of constructing, transmitting, receiving, interpreting, and comprehending auditory, visual, and kinetic inputs in a way that conveys meaning. Communication is largely social and should recognize cultural differences and sensitivities.

Facilitation (GKA02): Working with people to assist in a process of advancement or moving forward of ideas or initiatives. Facilitation often focuses on the process and assumes a neutral position leaving advocacy or tactics to others.

Persuasion (GKA03): To prevail upon others to accept a point of view, adopt a belief, or induce behaviors by means of argument or reason.

Political and Administrative Intelligence (GKA04): Understanding and successfully navigating an institutional system towards mutually beneficial and community supported end.

Cognition (GKA05): The process of perceiving, recognizing, conceiving, reasoning, and judging something as to know it.

Leadership (GKA06): "Leadership is a process of social influence in which one person is able to enlist the aid and support of others in the accomplishment of a common task" (Chemers, 1997, p. 1).

Management (GKA07): The act of controlling decisions, often focusing on processes (planning, organizing, directing, and controlling) and resources (human, financial, and material).

Career Focused (PC01): The intentional investment in or progressive achievement of career aspirations through personal reflection, professional contributions, and continual improvement.

People Oriented (PC02): A disposition centered on interpersonal relationships.

Soft Skills (PC03): A collection of beliefs and behaviors that lead to a compassionate willingness to reduce the suffering before, during, and after a disaster by demonstrating a genuine appreciation of the manner in which interactions occur and decisions are made in order to instill trust in constituents.

Stress Management and Stress Tested (PC04): The ability to perform under diverse work conditions for extended periods of time while recognizing, monitoring, and using healthy strategies to manage the chemical, emotional, or physical elements that cause physical or mental tension.

Work Ethic (PC05): An expressed system of values in which the importance of purposeful activity holds central importance and associated qualities are revered.

Administration (BM01): Activities related to running an organization.

Benefits and Finance (BM02): The development and administration of financial tools and nonmonetary compensation.

Personnel Management (BM03): Activities related to staff.

Collaboration (PD01): The act of working together, in a willing manner, towards shared goals and activities.

Coordination and Cooperation (PD02): The harmonious interaction of individuals and organizations for mutually beneficial goals.

Delegation (PD03): The demonstrated philosophy of shared responsibility and power expressed through the promotion and utilization of decentralized structures.

Flexibility (PD04): A willingness to change, adapt, adjust, cope, change, or compromise in evolving situations and times.